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THESIS

PRESENT-DAY METHODS OF TEACHING
ECONOMIC GEOGRAPHY

BY

FLORENCE M. O'CONNELL

(A. B. Boston College 1922)

submitted in partial fulfillment of
the requirements for the degree of

MASTER OF COMMERCIAL SCIENCE

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PREFACE

Objectives. In writing this thesis on "Present-day Methods of Teaching Commercial Geography" the author has been guided by a twofold desire or purpose. The objectives of his work are to develop a personal conception of the variety of methods possible in the teaching of this subject, and to aid the beginning teacher in this subject of commercial geography.

The content of this thesis is based on an experience of three years in teaching this subject, together with information collected from many sources. The author has attempted to employ, and become personally acquainted with, many of the suggestions mentioned in this thesis.

At the outset, the author must state that many of the methods he is mentioning and discussing were a bit vague in his mind. Many of these newer methods of teaching have come into vogue since 1925 or 1927. Many articles have appeared in magazines within the past few years and have given considerable light on this subject; however, most of this has been theoretical.

It is the hope of the author that some of the methods mentioned will be given a thorough trial, and that exhaustive experiments will be performed scientifically in order to establish the effectiveness of these methods.

PREFACE

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It is the hope of the author that some of the methods mentioned will be given a thorough trial, and that exhaustive experiments will be performed scientifically in order to establish the effectiveness of these methods.

The thesis is written from the point of view that no single teaching formula is appropriate for all teaching situations, but that there are numerous types of classroom procedure which teachers of most, if not of all, subjects should employ, each as occasion demands. Hence attention is given to such "traditional" procedures as the recitation and the drill period, as well as to the socialized procedure,visual instruction, and other procedures that are employed in teaching commercial geography.

In the introductory chapter, the author points out how broad the objectives are. Consequently teachers are faced with the task of making a judicious selection of methods in order to present most effectively the subject matter of the thesis. The author desires to bring out this one point, especially, in regard to the thesis. Lack of space, and the objectives of the thesis, are such that the author felt that he could not begin to exhaust the subject matter of each chapter. Authorities have been mentioned concerning items mentioned in the thesis. Items, such as testing and measuring, educational psychology, must of necessity be very briefly treated. I have, however, tried to summarize the prevalent literature on the matter. I have attempted to avoid the use of the outline or topical method of exposition of this subject matter, but some chapters would be quite long unless a summarizing method were used for parts of the chapters.

Acknowledgments. The reader will observe that the author is heavily indebted to many writers. Specific acknowledgments of this indebtedness are made by references to sources of material, but it would be difficult and tedious to acknowledge this indebtedness fully.

I wish, however, to acknowledge especially my indebtedness to Wm. L. Anderson, Paul Boynton and Edwin M. Chamberlin, professors at Boston University, for their courteous and helpful suggestions in the preparation of the thesis; to several teachers of the Rochester City high schools for their suggestions as to methods of procedure in teaching the subject; to Rev. Lester Morgan, and Rev. Francis Marks, of the Aquinas Institute faculty for their literary criticisms of this thesis; and to Rev. Jos. E. Grady, principal of Aquinas Institute for his pedagogical criticisms. I am especially indebted to my wife, Isabelle, for her tireless effort and splendid cooperation in typing the manuscripts several times.

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INTRODUCTION

Origin. Like many teachers who are anxious to make improvements, and to discover weaknesses in his work, the author decided to make himself acquainted with many of the newer methods of effective teaching. As commercial geography is one of his subjects, and since it is a social science involving some aspects of the other types of subjects, he decided to conduct his research work in this field.

Since 1927 or 1928 much has been said about individual differences and provisions for these differences. Some of these provisions are methods such as the Unit Plan, the Contract Plan, the Laboratory Plan, and Project methods. Objective testing, intelligence tests, and promotions are still other provisions.

There has been much criticism against the Recitation Plan. It has been the time honored method. That it has had success is obvious, and there must have been some redeeming features, to save it from being universally scrapped in favor of the so-called newer methods.

Hence the idea of securing as exhaustive a study of these newer methods as possible gave rise to the subject under discussion. Hence the title "Present-day Methods of Teaching Commercial Geography" suggested itself.

Method of Attack. The field of geography offered some difficulties and problems in itself. However, there was a wealth of material available. A number of books have been written on methods of teaching geography, but I found no texts on methods of teaching commercial geography.

Part of the equipment of a teacher is knowledge of the subject. There are many excellent books on the market about Commercial Geography, or Economic Geography, as it is sometimes called. In addition there are books, articles, bulletins, journals and the like which cover various phases or activities intimately bound up with commercial geography. I am not including in this thesis a bibliography of textbooks on commercial geography. Most textbooks mention an abundant source of reference material, much of which would be duplicated were I to include it in the thesis.

There are several commercial educational magazines sent to teachers which are also abundant sources of material for both subject matter, and teaching hints, many of which refer to provisions, of one sort or another, for considering individual differences. Some articles refer to administrative features of this subject, or of its kindred subject, general geography.

The author has also contacted a number of teachers of the Rochester city schools who are teaching this subject. Many of these teachers have tried out the newer methods of teaching commercial geography, and were willing to give the results of their experiences.

I have also tried out most of these methods. Some of them were a bit impractical, or even impossible in our school because of lack of equipment, or for some other cause. I have formed an opinion as to the value of some of these teaching suggestions. I realize that my opinion on these methods is tempered by the fact that there is the element of selectivity and scarcity of cases on which to base reliable opinion. As will be explained later, I have a peculiar situation in my economic geography class, which may have affected my impressions; yet conversations and discussions with other teachers seem to verify my criticisms of these methods.

With this wealth of material analyzed and digested, my difficulties, as well as the solutions to these difficulties, became obvious. One of the first problems was to define geography, and its branches, so as to achieve their proper articulation.

When an attempt was made to analyze the objectives and aims of this course, we were confronted with an enormous number of excellent reasons for including this subject in the commercial, and even the academic, curriculum. The list was so extensive that many laudable, though not so patent, aims of commercial geography were eliminated.

To provide a background for present day methods of teaching commercial geography, it was considered advisable to give a brief history of the methods of teaching this subject.

This reveals the fact that the objectives, aims and content of this subject have changed considerably over a number of years.

In order to secure an adequate criterion of the value of the newer methods of teaching the author decided to include some general psychological principles of teaching. While this treatment is not extensive, it lays a background for the newer provisions.

In the discussion of the various methods of teaching, the characteristics of the different methods are enumerated and explained. This is followed by a listing of advantages and disadvantages. Attention is stressed on the unit and contract plans, as exemplifying the most important of the provisions for individual differences. The Recitation plan, being the chief prototype of the group plan of teaching, is given considerable space.

The author follows this with a discussion of visual aids and other devices helpful in securing and maintaining interest. The moving picture innovation is discussed with its advantages and disadvantages. A suggested list of these visual aids, with hints as to the arrangement in the room is also included.

This is followed by a suggested outline of the year's work, and various approaches that may be made to arouse and secure interest among the pupils. The description of the

newer methods of teaching the subject calls for an explanation of ways of using these plans as applied to certain phases of commercial geography, such as climate, cereals.

Field trips, or the use of the journey method, are rather peculiar to a class in commercial geography. Suggested hints for such a trip are included, together with advantages and disadvantages for this form of presenting the subject matter.

Since our teaching of commercial geography is tested by some sort of a grading system, it was thought advisable to include a chapter on this phase of teaching, or check on teaching. Psychological tests, objective, and standard tests are prevalent, although very few are available for this subject.

The final chapter contains a summary of the matter of the thesis, with conclusions. The validity of these conclusions can be left to the interpretation of the reader. Such conclusions give rise to recommendations, and suggestions that further studies be pursued.

THESIS

CHAPTER I.

DEFINITIONS AND THE PLACE OF ECONOMIC GEOGRAPHY IN THE CURRICULUM

A. Definitions. In a discussion of Modern Methods of Teaching Commercial Geography, it is worth our time to take up various definitions given to Geography, in general, and to some of the many branches of this subject. There seems to be considerable disagreement among authors of texts as to the exact definition of Geography. From an analysis of these definitions, as given, we may pick out the essential elements concerning this uncertainty. Staples and York* say in their introduction:

> "Probably no other subject of the curriculum offers more divergence in definition and emphasis of subject matter than Commercial Geography. This is a natural consequence of the vastness of the subject and its varying applications to local requirements."

The division of geography into its varied subheadings reflects to a great extent the developments in the objectives, contents, and in the history of teaching the subject. The history of commercial geography teaching also reveals the changed objectives, therefore, the content of the subject, since it has been taught.

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* Staples and York - "Factors of Economic Geography Teachers Manual", South-Western Publishing Co. 1928 p.3

General geography is a study of the surface of the earth and its life. This is the geography of the grammar grades. It includes place geography, physical features and human activities of countries. Since the war there has been a pronounced emphasis on relating environmental facts to human activities. J.R.Smith* writes:

> "Geography may be defined as a study of the earth with especial reference to its influence on man."

Frederick Holtz** defines it in these words:

> "The definition of geography is the description of the habitat of man, and of his physical and psychical adjustment to his environment."

Physical geography is a study of forms of land, atmosphere, oceans, and the earth in its movements as a planet. Formerly this consisted merely of descriptive material, but more recently it considers the laws which explain the actions of physical forces of nature. The emphasis is on the inanimate side of geography.

Mathematical geography is a study of the way in which man has arbitrarily and theoretically divided the earth into areas, by imaginary lines, so that political divisions may be set up, and time accurately computed. It also considers

---

* Smith J.R. "School and Society", p.441

** Holtz Frederick L. "Principles and Methods of Teaching Geography", Henry Holt, p.1

space, latitude, longitude, phenomena of seasons, rotundity of the earth, day, and night. Concerning this parallel to astronomy, Holtz[*] has this to say:

> "In ancient times geography and astronomy were not separated, Geography was a part of astronomy."

Holtz[**] also defines two minor phases of geography,

> "Political Geography, is a phase of Geography, which deals with the division of the earth into nations, and other political divisions, including the industrial, social, civic and even educational and religious phases."
>
> "Descriptive geography is the natural blending of the various branches of geography in the depiction of the appearance and conditions of a region or country, and in the account of the inhabitants, their mode of life, and their national characteristics."

There has been in the last decade a tendency to humanize geography and to show the influence of geographical environment on man's life and his activities. It represents an effort to show underlying causes for man's activities in various parts of the world. This phase of geography has several branches, or derivatives.

Human geography is a study of man in his relation to the earth.

Commercial or Economic geography is a study of man as a trader, and of the earth's surface as affording a place in which to trade. It is a study of the interrelations between man's activities and geographical facts. Economic

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[*] Ibid. p.1
[**] Ibid. p.96

geography considers the facts of production, distribution, exchange and consumption. Economic geography and commercial geography are so near alike that the author will use one term for the other.

Until a few years ago the geography of the secondary school was either physical geography, or commercial geography. Whitbeck* has this to say about the division,

> "But thus to separate the two is to rob each of its complement. If the large facts of economic geography are not traced back to the physical causes upon which, in a degree at least, they rest, and if the facts of physical geography are not carried forward to some of the great human consequences which arise from them, then each falls short of its possibilities. Geography is not simply a study of selected human activities, rather is it a study of both plus their interrelation."

Industrial geography is a term sometimes used instead of commercial geography. It sometimes refers only to manufacturing industries, but generally it includes the chief forms of industry as farming, mining, manufacturing, trading and transporting. These are generally included in a course in economic geography.

B. The Place of Commercial Geography in the Curriculum.

There is a variety of opinion as to the proper place of geography in the curriculum of studies. Even minor factors may decide its place, as, for example, a desire to give to possible high school seniors of poor and doubtful scholastic

---

* Whitbeck R.H. "High School Geography", MacMillan Co. p.2

ability an "easy" subject to enable them to graduate. Administrative difficulties and many others may be deciding factors.

Where conditions make it possible, however, for the subject to be taught in its most logical place, it would be about the 10th year. The author's belief is that it should be given in the 10th year, for a full year, with one half of the course devoted to the United States, and the other half to Europe, and to the remaining world regions. He suggests that five recitations a week be given. That this is generally the case may be verified by the following results of actual conditions, or of surveys made.

In discussing its place in the curriculum of the Boston schools, Marion J. Cromwell* says,

> "The following course of study is being used in the Memorial High School, Roxbury (Boston) Mass., in the Sophomore year (tenth grade) ..... devoting three periods per week to the subject during one school year."

Lynn H. Halverson,** speaking of economic geography in the Joliet Township High School with an enrollment of over 2000 high school pupils, states

> "The courses leading to Agriculture, Business Administration, Secretarial Service and Mercantile Service requires two semesters in the sophomore year."

In a large number of schools there are three classes

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* Cromwell, Marion J. "Commercial Geography", Jour. of Geog. Vol.27 Apr. 1928 p.161

** Halverson Lynn "Geography in the Joliet Township High School", Jour. of Geog. Vol.27 Oct. 1928 p.273

held a week. According to Wm. L.Anderson*, in classes held at Boston University,

> "He estimates 78% of the secondary schools teach geography in one form or another. According to this same authority about 78% or a majority teach the subject of Economic Geography in Grade 10, and 20% teach it in Grade 9.
>
> "The subject of the first year should be Elementary Science. The second year in the sequence of studies should be the study of Commerce and Industry." (Mr. Anderson believes that this name is more appropriate for this subject.)

Paul M. Boynton** writes,

> "78.4% of courses in 102 schools have the following
>
> | 9th year | 10th year | 11th year | 12th year |
> |---|---|---|---|
> | 17 schools | 35 schools | 16 schools | 12 schools |
> | 22% | 43% | 20% | 15% " |
>
> "Whether it is required or elective
>
> | | Required | Elective |
> |---|---|---|
> | 1st year | 10 | 1 |
> | 2nd " | 21 | 2 |
> | 3rd " | 6 | 3 |
> | 4th " | 4 | - " |

In investigating A.P.Brigham's claim, "Geography is doing well in the grades and higher schools, and is doing nothing, or next to nothing in most secondary schools"

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* Anderson, Wm. L. "The Stimulative and Correlative Value of a Well Balanced Course in Commerce and Industry", New Bedford Teacher's Association Bulletin, May 1932 - p.4

** Boynton, Paul M. Instructor at Boston University, Master's Thesis "The Teaching of Commercial Geography" 1929 p.85

Clare Symonds*, Senior High School, Quincy, Ill. selected the larger cities in each state for a survey (made October 1927).

> "The average percentage of replies from the 404 representative cities to which the questionnaires were sent were 72.5 (289)

"Courses offered	No. of cities	
Physical	66	
Commercial	175	
Other courses	13	
More than one course	55	(68.17%)
No courses in Senior High School	92	(31.83%)

> "...... The miscellaneous courses are: astronomy, geology, high school geography, history of commerce and industry, human ecology, human geography, international business relationship, industrial geography, normal training course for teachers, and social geography

Length of Courses

	One Semester	Two Semesters	Three Semesters
Physical	32	34	0
Commercial	112	62	1
Other Courses	11	2	0
	155	98	1

> "...... It is interesting to note that of the 254 geography courses offered, ninety-eight are two semesters in length and one school offers three semesters of geography.

Year Taught

	Any	Sophomore	Junior	Senior
Physical	8	30	22	6
Commercial	10	107	47	11
Other Courses	2	3	1	7

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* Symonds, Clare "Commercial Geography", Jour. of Geog. Vol. 27 Apr. 1928 p.161

> "The tenth year seems to be the most popular for geography courses, at least for commercial geography, the eleventh year being a close second for physical geography, the twelth year ranking first for other geography courses."

In New York State, commercial geography is offered in the form of Economic Geography I, and Economic Geography II, each for a half year. The Syllabus suggests five recitations for the 10th year.

Due to the trend in the grammar grades of the last decade or so there is much confusion as to the overlapping of subject matter of the geography of the grades and the high schools. Renner* gives a very clear statement of the articulation involved through the different years in which the subject of geography is taught.

> "The following allotment of geography's subject matter to the various grades is suggested

	Primary School
1st grade)	
2nd ")	Pregeography work
3rd ")	
	Elementary School
4th "	Home Geography
5th "	Type Studies (Journal Geography)
6th "	Regional Continent Geography
	Junior High School
7th "	Regional Continent Geography (Continued)
8th "	" " " "
9th "	Political Geography
	High School
10th "	Physical Geography
11th "	Economic Geography
12th "	Historical Geography

---

* Renner, G.T. "The Geography Curriculum," Jour.of Geog. Vol.29 Nov.1930 p.347

This arrangement of Renner's would be ideal, and one worthy of consideration by authorities, but is far from the actual situation at present. It, however, stands for an objective, and an obtainable ideal for larger schools, especially for students intending to enter geographic work.

Summary. Geography has many derivatives, which are well defined, but it is poorly defined itself. Commercial geography is a study of man as a trade, and of the earth's surface as affording a place in which to trade.

As to its place in the curriculum there is difference of opinion. If possible, however, its most logical place is in the 10th year. Most schools make it a one year subject with one half of the course based on the United States, and the second term is based on the rest of the world. Five periods a week is suggested.

CHAPTER II.

OBJECTIVES, CONTENTS OF THE COURSE AND CORRELATIVE VALUE OF COMMERCIAL GEOGRAPHY

OBJECTIVES

We may now consider reasons why commercial geography should be taught in the secondary schools. In other words, what are the objectives, aims and values that may be secured from a study of this subject?

First, we shall consider some of the general objectives and special aims of the course. We shall, however, set forth the seven cardinal objectives of all education, whether commercial or general, and show how this subject satisfies these objectives, namely: Health, Worthy Home Membership, Citizenship, Leisure Time, Fundamental Processes, Vocational Efficiency and Ethical Character. We shall consider these objectives also from the view point of the four general aims, namely: Knowledge Aims, Ideal Aims, Habit Aims and Power Aims.

Knowledge Aims

Educational Group

Health. Commercial Geography gives us a knowledge of environment and health, and how to improve physical fitness. A study of local environmental factors may involve outside physical activities. A reading contact with disease producing localities as China, India etc. motivates cleanliness about the home. We learn that diseases can be conquered in spite of climate.

Home Membership. This subject gives (a) an elementary understanding of how supply and demand affect the prices of goods for home consumption and how transportation tends to equalize this supply and demand. (b) It affords a knowledge of the principal products of the world, and their importance in the student's own home. (c) An appreciation of the pupil's own home may be fostered by a study of the poverty, misery and disheartening conditions of homes in other countries. On the other hand some desired conditions may be adapted for application to his home betterment.

Crawford and McDonald* mention an excellent aim, quite apt to be forgotten in these days of the movies, automobiles and the like.

> "The interest in economic geographical reading as a recreation may be cultivated as a substitute for outside amusements which tend to disrupt the home life or break up the old fashioned evening fireside gathering of the family."

Citizenship. (a) He secures a realization of the vastness and power of our resources. (b) It develops pride of country. It gives us an idea of the problems confronting us as a nation, our national greatness and limitations, e.g. the tariff question, the farm question, irrigation, power and flood control, etc.

It makes a better citizen of the pupil, by providing him with accurate information to serve as a basis for intelligent thinking. He cannot vote intelligently on many local,

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* Crawford and McDonald, "Modern Methods in Teaching Geography", Houghton Mifflin, 1927 p.27

state, or national questions such as, relief for the farmers, laborers, unemployment, without an intimate knowledge of geographic conditions involved in the decision. It provides a knowledge of problems in different parts of the world, and thus leads the pupil to world-mindedness, and teaches him the interdependence of nations. Holtz* has this in mind when he writes:

> "It teaches us how the other half lives. In this way it tends to develop in the student a social sympathy, a feeling of relationship to others, a certain sense of civic duty that help toward good citizenship. No nation is entirely self supporting."

Edith Brill** recognizes this citizenship objective:

> "Its study should enable pupils to interpret all their lives in terms of their environment, and to recognize the contribution of all to the welfare of all."

Leonard Packard*** stresses world citizenship:

> "To be a good American citizen one must have a knowledge of the people of other countries, and must present a friendly attitude toward them and their affairs ...... Intimate knowledge of the people and conditions in distant lands leads to closer relationships and to sympathetic understanding."

Leisure time. Commercial geography teaches him to know how to secure sources of future information. There is a gold mine of wealth of knowledge obtainable in libraries, magazines, and even newspapers. It is surprising how little high school

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* Ibid. p.3

** Brill, Edith "What Method Shall We Use in Teaching Geography", Jour. of Geog. Vol.30 March 1931 p.128

*** Packard, Leonard O. "Geography and World Citizenship", Jour. of Geog. Vol.29 Apr. 1929 p.169

pupils know of even the existence, let alone how to use, publications such as "The Reader's Guide", "Industrial Arts", and the like.

It gives to pupils the courage to tackle problems later in life, ability to know sources of facts necessary in the formation of an important business decision, which is of vital importance. A request for an after dinner, or a social speech, on an infamiliar subject would not confound him, provided it is not to be too impromptu.

It enriches his background for social or school life by giving facts for history, economics, science, literature, art and languages. It makes possible the storing of information and experience which will be a foundation to an intelligent understanding of local and world topics. The intimate correlation with these other school subjects will be mentioned in a later section.

It inculcates interest in every day life. Geographical happenings are continuously arising in our daily readings of newspapers and literature. Current events are without meaning if we are ignorant of the places where world activities happen. It stimulates travel and even serves as a compensation for inability to travel.

It affords a better understanding of nature, and its interpretation. The environmental factors of nature take on a new meaning when one sees how intimately man's activities

are bound up and related to nature. It provides to some the inspiration to use as a hobby certain activities of the economic geography class such as: tinkering with map work, hunting trips involving the use of contour maps, graph interpretations, scrap book collections, resulting from commercial geography practice.

General Knowledge Aims. It instills an understanding of the relations existing between production and consumption on the one hand and the natural factors on the other; i.e. to understand what nature has done to man. It leads the pupil to understand the physiographic factors of production, exchange, and distribution. A skilled teacher can show how, in spite of a plentitude in the land, there is inadequate distribution, that is, there is "want in the midst of plenty". Staples and York* claims that it enables us

> "To study the changes that are taking place in transportation methods and the economic significance of these changes".

It provides an understanding that sound economic principles and not chance circumstances almost always determine the location of a particular commercial enterprise. Economic geography teaches what these sound economic principles are. It explains underlying causes of many economic facts and trends. It provides a knowledge of the economic activities

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* Staples and York , "Teachers Manual - Factors of Economic Geography", South Western Publ. Co. 1929 p.5

of a pupil's own country, and of the interdependence of the different sections of our nation - the mutual interdependence for foodstuffs and manufactured goods.

It affords a knowledge of the physiography and geography of the United States, in particular, and of the world in general. The appalling lack of knowledge on the part of high school and college pupils of place geography and of physical features of a country, calls for a review of this matter previously covered in the grade schools. It provides a knowledge of the principal products and industries of the world.

Vocational Group

Fundamental Processes. This means the tools or skills for which the student acquires new knowledge, solves new difficulties; adapts himself to new situations; strengthens proper expression of ideas. It supplies such deficiencies as pupils may have of the more outstanding facts of geography. It leads to an acquisition of vocabulary building qualities. A fluent and correct use of English may be built up for written or oral purposes. Many fundamental study habits may be built up, such as the finding of materials in the library, the art of judicious selection and omission of such materials as are irrelevant.

Vocational or Utilitarian values. (a) It furnishes a body of valuable commercial and industrial information. (b) It reveals the sources of information for future business uses as the world's almanac, Industrial Arts index, etc. (c) It teaches the

benefit of mutual business help. (d) It provides knowledge of value for salesmen and salesmanship classes. Commercial geography activities provide to business a knowledge which it needs. Frederick L.Holtz* has this to say,

"The commercial world depends on geography information."

Business spends huge sums to spread commercial geography information by means of advertising, surveys, etc. The importer must know his sources of supplies, transportation facilities, and charges. The manufacturer must know his sources of raw materials, his markets, economical transportation route. In substantiation of this statement, Van Cleef** writes:

> "During the past few years, the business interests of a large city have spent over $100,000.00 in research carried out under the direction of geographers to determine what industries might well be located in their vicinity which were not there, why certain commodities in their market were made elsewhere, and what resources are available within a reasonable distance of the city which should be utilized locally. ......Essential to the intelligent selection of the best location for most factories is the following information: sources of raw material, topography, soil qualities, transportation facilities, population distribution, characteristics of the population with special references to labor supply, consuming capacity, and ability to buy, weather conditions as affecting the manufacture of the product itself, efficiency of labor and the cost of living."

The Government spends huge sums to acquire commercial geography information. Bankers and investors should have a knowledge of the trend of the times e.g. cellophane and its

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* Holtz, Frederick L., "Principles and Methods of Teaching Geography", Henry Holt p.l.

** Van Cleef, Eugene, "Geography in Business", Jour. of Business Education Vol.7 Mar 1932 p.218

wide uses, "The New Deal", "Government control of central banking facilities". This knowledge is necessary because of the international character of business. The pupil may acquire a rich and varied experience with the business life, and activities of the world. This is possible by means of trips which may assist in giving him an insight into the characteristics of the confusing economic system into which he is shortly to be thrown.

Ethical Character. Such a subject, dealing so intimately with human interests, is replete with occasions for character education. Positive and negative ethical values may be drawn from a study of the vices and virtues of people of other countries. Their standards and ideals may be worthy of emulation or rejection. A greater respect for the Supreme Being may be secured from an observation of nature and its laws. Moral lessons, given through economic geography, should be indirect, or unconscious on the pupils' part, but should be given through direct and conscious effort on the teachers' part. Reverence for God may be taught in conjunction with the teaching of nature's work in studying the geographic factors. We should be extremely careful to avoid preaching, or to give that impression. Educators, throughout the country, are agreed that all moral education should be indirect, especially so if we accept the lecture method as our means of developing moral education,...... But we can get our character training across

by other devices. Hull* appropriately writes,

> "We can, by adroit expedients, promote the information of good habits of body, imagination, feeling and even thought, and by this means create a condition of things, favorable to good choice. But when all is said and done, the ultimate formation of character is the work of the self; and no one has any real say in it but the self."

W.W.Charters** writes,

> "In constructing such a curriculum there are, therefore three problems (1) to select the traits to be developed, (2) To provide the situations which confront the learner, and (3) to determine what trait actions are necessary to handle the situations properly.

W.W.Charters*** analyzed 222 desirable qualities into key traits of

> "Accuracy, adaptability, ambition, love of beauty, balance, broad mindedness, courage, courtesy, chastity, cheerfulness, dependability, dicipline, domesticity, economy, efficiency, forcefulness, healthfulness, high-mindedness, honesty, individuality, initiative, leadership, loyalty, patriotism, poise, scholarliness, service, sincerity, spirituality, sociability and tact."

Character development comes through conduct. There are three levels of adaptation of old methods to new situations, imitation, modification and creation. Personal parallels are powerful forces in emphasizing ideals, and in shaping convictions about the merits of plans of action, and the closer the personal incident parallel the experience of the individual, the greater is its force as a stimulant or a detriment.

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* Hull, Ernest S.J. "The Formation of Character", B.Herder Publisher 1929 p.109

** Charters W.W. "The Teaching of Ideals", The MacMillan Co. 1928 p.46

*** Ibid. p.50

Van Cleef* says:

> "In geography courses, opportunity is afforded the student to appraise other people in terms of their actual attainments. He learns that all the good deeds and all the desirable qualities in man which we prize so highly are not monopolized by ourselves; that even primitive tribes may possess characteristics worthy of emulation by more advanced peoples. ......we learn to appreciate the worthwhile elements in the people of any region which we visit, to avoid invidious comparisons with ourselves, and to the detriment of those whom we are observing."

Habit Aims

Some desirable habit aims in commercial geography are: (a) to cultivate the habit of research. (b) To cultivate the habit of applying a geographic principle to the interpretation of current events. (c) To develop the habit of gathering facts and manipulating materials. (d) He should aspire to learn the proper use of indices, tables of contents, lists of illustrations, cross references, foot notes, bibliography charts, use of globe maps (physical, political and climatic), cards, catalogs, readers' guides, atlases, dictionary, travel guides, documents, pictures. He should foster the habit of seeking valuable new experiences through field trips.

Ideal Aims

(a) It provides a distinct cultural value, that is, an ability to discern what makes life worth living outside of pecuniary advantages. (b) It provides intellectual pleasure,

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* Van Cleef, Eugene Ph D - "Geography in Business", Jour. of Business Education Vol.7 Mar 1932 p.22

mental stability, growth of character, appreciation of history, literature. (c) It develops the powers of mind, body and soul by the acceptance, and personal development by the pupil, of those traits mentioned under Ethical Character. (d) It gives a taste of intellectual growth, unlimited in its possibilities. (e) It aims to foster an ability to size up situations with an idea of discovering its geographic aspect. It aims to provide to the pupil an ability to marshall data, so that emphatic points may be brought out. (f) It enables the pupil to find a satisfying unit for discussion. He should have an ideal to employ the best manner of presentation, whether it involves oral or written report, an illustration, booklet, graphs etc.

Power or Ability Aims

That transfer of training between subjects, or between school subjects and post-school activities is a possibility, is admitted by most psychologists. The amount, or degree, of this transfer of training is a debatable issue between psychologists. This subject has possibilities of such transfer of training, or skills. The amount of transfer of training that takes place in this subject depends to a great degree on the teacher's presentation of the matter.

By providing sufficient effective examples, and by providing practice in making generalizations and observations, the teacher should strive (a) to inculcate and develop

abilities, or powers, of observation in matters which have a commercial bearing, (b) to develop the power of deduction as to cause and effect, (c) to strengthen the power of comparison, such as the ability to compare home or native areas with other areas, (d) to develop powers of analyzing a geographical situation when given facts.

This subject offers possibilities in developing the ability, or power, of reflective thinking in the treatment of geographic data which includes an intelligent analysis of the problem, a search for data, its organization and verification. From the great mass of geographic facts, there is ample opportunity for observation, comparison, grouping of facts, and generalization. Thus it may develop an ability to think about, and to suspend judgment, on debatable issues.

CONTENTS OF THE COURSE

There is a great range of opinion as to what should be included in a course in commercial geography. The sources of information pertaining to this subject are limitless. Commercial geography takes some of its material from history, chemistry, physics, industry, commerce, art, literature, civics, governmental activities. The early teacher was at a loss as to what to offer, of the vast possibilities available. What to accept and what to reject

was his or her problem. Now through the process of experience, conventions, interchange of ideas of teachers through journal articles, the subject has been somewhat limited, and made definite as to its scope. But as yet it is far from being standardized.

An observation of possible objectives of commercial geography as outlined previously will show a number of valuable objectives that cannot be covered during a course in economic geography due to lack of time. Hence the actual content of the subject matter to be covered will vary according to the conceptions of the objectives in the minds of the teacher, of the school authorities, of the school community, or of the State.

Another important factor in determining the scope of the subject is the local condition of the community or section of the country. Some attention and stress should be given to local industries and local products. Some emphasis should be placed on the products and industries of the state of which the pupil is a member.

Before submitting a suggested syllabus of the work to be covered it is well to have in mind certain phases of commercial geography that should be included in courses in this subject. Certain aspects of economic geography must be considered as core sections, or an irreducible minimum expected of all the students. The amplifications and extensions of these suggestions

depend on the time available, and other factors.

Place Geography. A course in Economic Geography should include some place geography. As stated previously there is an appalling lack of knowledge of place geography. It is inconceivable that students of economic geography should be totally deficient in knowledge of the location of important cities. Just how detailed this knowledge should be, is a matter of opinion. I am in favor of setting a certain population minimum. In my opinion the pupils should be held responsible for the location and economic importance of cities of the United States, and of the world, which have a population of 100,000 and over. I also believe that they should have some idea of location of cities of 50,000 to 100,000, and some of the more important bodies of water. Special emphasis should be placed on cities that have a product, or industry, of an unusual nature, even if the population falls below 100,000 or even 50,000 as Iquique, Chile. Cities with a population of 100,000 have outstanding industries or activities to warrant that size, and therefore warrant consideration. Ethel M.Fish* comments on place geography as follows:

> "As a student and a teacher of geography it seemed to me that I should have more definite knowledge of the large cities in the various states. Accordingly the

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* Fish, Ethel M. "Lessons Based on the Appendix and Index of the Advanced Geography Text Book", Jour. of Geog. Vol.27 Mar 1928 p.110

> list in the Appendix, ' A selected List of Important Cities in the United States', was found. This list was checked by states and certain round numbers of population were kept in mind such as 10,000, 15,000, 20,000, 25,000, 40,000, 50,000, 75,000, 100,000, etc. ......This study was used to reinforce work on cities under the topic, 'A Geographic Principle Developed and Applied'. The principle used may be, 'Population and wealth tend to collect wherever there is a break in transportation.'"

Lynn Halverson*, in speaking of Joliet Township High School, has the following suggestion to make to provide for the teachers who throw up their hands at the prospect of this task.

> "Place Geography is not taught as such, but by the use of maps and exercises involving the location of production centers, industrial developments, and the distribution of products. Places are constantly tied up with geographic relationships, principles, and facts. The almost absolute lack of knowledge of places which is characteristic of students when they come to us is one of the disheartening situations which must be met. The correction of this one weakness takes a great amount of time and effort on the part of the teacher."

Geographic Factors. There are certain underlying causes and factors, or products and industries in certain localities, or lack of them. From their presence, or absence, the pupil should be taught to reason from cause to effect. That is, if climatic, soil, natural resources, locational and topographical factors are favorable, certain industries will develop and others cannot.

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* Halverson, Lynn "Geography in the Joliet Township High School" Jour. of Geog. Vol.27 Oct.1928 p.274

Therefore, I firmly believe that a course in economic geography should have some time and attention paid to these underlying geographic factors. If a course in physical geography is not given, the teacher of commercial geography must spend some time covering these factors as an introduction to the subject.

To be particular, in our study of the United States, attention should be paid to the climate, soil, mineral, and other natural resources, and to the topography of the various regions of the United States. In a study of the countries of the world these same factors should be kept in mind.

Products. Another section of an economic geography course should be devoted to certain products as: the cereals, fibres, lumber, and its products, fishing, coal, iron, and other metallic and non-metallic substances, minerals and some of the resulting industries, cattle and cattle products. Too much emphasis is not to be placed on industrial phases or any special feature.

A study of these should include favorable and unfavorable factors for growth or production. In teaching these products it is not necessary to repeat the interesting phases of these products when they are again mentioned, as products of foreign countries, under later discussion.

Other topics that may well be covered are as follows: sugar, beverages, such as coffee, tea and cacao, rubber, commerce and trade with other nations, the transportation facilities of the countries covered, its people and their

outstanding characteristics, and the government, and the status of manufacturing in the country.

When a new country is studied we must predetermine the objectives to be stressed. For example, do we wish to stress travel, improve citizenship, underlying causes? Whatever the objectives are that we have in mind we should stress that in our study of the subject matter of the particular country.

It is also well for the pupil to know trends of products, industries, etc. as well as the trends of the nations. In other words, a picture of the future of the countries under observation is quite appropriate.

There are other factors that may be taught, or may be optional, depending on the time, locality and other factors. They may not necessarily be considered separately, but may be collaborated with the preceding material. They include the historical and social factors of economic geography, history of the means of communication and transportation, some important factors causing a localization of industry, and growth of large cities. Power development, government and its branches, and types of Business Organizations are a few other important topics.

In regard to the selection of a textbook we should endeavor to pick out a text that most closely approximates the objectives set up. When once selected, it must be

judiciously used. The slavish following of the textbook, however good it may be, is seldom conducive to good geography teaching. Crawford and McDonald[*] referring to this point state,

> "Many texts are written for certain sections of the country. The teacher should be an opportunist, that is, he should satisfy the needs of the pupil's curiosity about a country in the limelight of world events."

A SUGGESTED COURSE OF STUDY

As a specific illustration of a course of study in economic geography I am including in the appendix the main headings of the "New York State Syllabus for the Teaching of Economic Geography in the Schools of This State." I also am including a course outlined by Wm. L. Anderson[*], a pioneer in commercial geography teaching, and who is in charge of commercial work in the Dorchester Girl's High School commercial department. His suggested course is as follows:

> "An Outline of a Proposed Course.
>
> 1) The study of a good text book.
> 2) The keeping of home-work clipping books.
> 3) The writing of formal reports, with oral reports

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[*] Crawford and McDonald, "Modern Methods of Teaching Geography", Houghton Mifflin Co. 1927 p.38

[**] Anderson Wm.L. "The Stimulative and Correlative Value of a Well Balanced Course in Commercial Geography", New Bedford Teacher's Association Bulletin Vol.8 May 1932 p.5

to the class on
  (a) an individual visit to a leading representative manufacturing plant
  (b) Visits with the class to several transportation establishments
  (c) a personal investigation by each pupil of the work of one of the bureaus of the national government

4) Attending talks and quizzes by the teacher on unfamilar, non-local industries, illustrated by lantern slides, or by pictures used in a reflectorscope.
5) Studying specimens of an exhaustive collection of the materials of commerce
6) Making graphs regarding the statistical phases of industry."

It must be borne in mind as stated above, that local conditions may cause some variation in the program. Pertinent facts of the particular locality may be given instead of those suggested for New York State. This part may be rejected in localities outside of the particular state.

In general, I am convinced that the New York Syllabus is a very good criterion and standard of what is to be taught. It is, of course, the standard for instructions in my classes.

I do not mean, however, that the method of approach used in this syllabus is the one that is advisable to use. There are many methods of approach which may be considered superior to the method suggested. I am mentioning this syllabus only as a suggestion as to the subject matter for consideration in the study of economic geography. I shall go into details later as to possible approaches to the subject. In another section I shall give an outline for the year's work.

(See Appendix for main headings of the New York State

Syllabus on Economic Geography, for a suggested course of study)

THE CORRELATIVE VALUE OF COMMERCIAL GEOGRAPHY

The Correlative Value of Commercial Geography. According to Thorndike*, the law of association states that our knowledge should not be a multitude of isolated connections, not a hodge-podge of loosely connected information, but a well ordered arrangement or correlation of pieces of information with other learned facts. In this subject of commercial geography, there are splendid opportunities for correlation. The opportunity to correlate commercial geography to other commercial subjects is far more obvious and apparent than is the case with academic subjects. Hence there should be little necessity of urging commercial teachers to correlate one subject with another. Wm. L.Anderson** comments on the opportunities of the academic teachers,

> "Teachers of academic subjects have an opportunity to furnish a motive for more vigorous and more interested effort on the part of commercial students through correlation."

M.Olive Nolan*** in writing about the correlative value of geography states,

"My plea for correlation is based on the ground that we

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* Thorndike Edw.L. "Principles of Teaching" p.128

** Anderson Wm.L. "Stimulative and Correlative value of a Well Balanced Course in Commerce and Industry,New Bedford Teachers' Assn. Bulletin May 1932 p.12

*** Nolan,M.Olive "Correlation of Geography, History, Civics and Economics", Jour. of Geog.Vol.27 Feb.1928 p.78

should teach nothing in a vacuum but closely related to life, the lives of children."

We shall mention of few of the many subjects which may be correlated to commercial geography or to which commercial geography may be correlated.

English.- In the field of Literature the correlation between the two subjects is not so pronounced. In composition work, however, the two teachers may supplement each other's work. The commercial geography teacher can suggest to his classes subject materials for compositions and can turn over to the English Dept. papers handed in to him, to be corrected.

Foreign Language.- Commercial geography can furnish to the student who also takes foreign languages, a background of France, and of the French people and their characteristics, perhaps as effectively as can the study of French itself. If the French class is far enough advanced it may have texts based on some phases of geographical, commercial, or political value, to inspire or arouse him as a pupil of the geography class.

History.- While history may include a narration of many commercial activities, this is not its main objective. However, a pupil in the commercial geography class should have his interest aroused by many aspects of history which deal with such commercial activities as fairs, tariffs, naval stores, colonial expansion and the like. The history pupil will likewise find many facts of economic geography closely related

to his subject. Wm. C.Bagley* in speaking of this correlation between history and geography says,

> "Indeed, if one were inclined to raise the issue one might justly maintain that the achievements of many of the heroes of discovery and exploration belong to geography rather than to history in the narrower sense. (Marco Polo, Lewis, Clark, Hudson are examples.)"

Science.- This group includes Botony, Zoology, Physics, Chemistry and similar studies. The Botony teacher can stress the economic importance of plants in the world of trade. Forestry, Governmental Plant Bureaus, etc. are geographic items that might be emphasized. Economic geography performs a similar activity for Botony pupils. A similar interrelationship exists in reference to animal life in the subject of Zoology. The products from animals constitute one of the main products, a man's activities and provides employment to millions in some phase of its activity. In physics and chemistry, if the teacher is so desirous, he can readily correlate his subject with economic geography. In a large number of industries, principles of physics and chemistry are employed. The laundry, scientific instrument factories, the machine shop, and others are examples of plants using principles of physics and chemistry. A visit to such plants should be of great value to both of these subjects.

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* Bagley Wm.C. "The Element of Adventure in Teaching and Learning Geography", Jour. of Geog. Vol.28 Mar 1929 p.92

Mathematics. Mathematics teachers do very little correlative work with economic geography. They perhaps do not realize that this value is in the subject. Industrial Schools, however, have come to realize that shop problems, similar to industrial conditions, utilize principles of algebra, geometry, mechanics and the like. Their special textbooks and notes contain a surprisingly large amount of information of value in commercial geography.

Drawing and Art. The pupils must first have a rather fundamental knowledge and skill in these before geographic value may accrue. Then they may work on commercial expressions of art as designs for magazine covers, advertising, carpets and the like.

Economics. Here is a subject in which a tremendous amount of correlation is possible. The commercial geography pupil in the economic classes, will hear, almost daily, principles which have a vital bearing on commercial geography. Many economic principles are also fundamental principles for commercial geography. A thorough understanding of these principles, will enable him to more readily understand some of the human responses. The geography teacher can show the effects of these economic principles time and again, and can and should mention some of the principles underlying these effects.

Bookkeeping. A knowledge of the principles and practices of bookkeeping can give the pupil an understanding that natural facilities, as presence of raw materials, markets, labor, etc.

are not the only elements for a successful pursuit of a commercial or industrial enterprise or business. Commercial geography affords to him a background for understanding some of the elements entering into the costs of purchasing, and even of selling prices.

Shorthand, and typewriting. There is not so much opportunity for correlation here. Commercial geography enriches the pupil's background and may enable the pupil to be of much service to his employer later.

In concluding this matter on correlation we would like to make a suggestion. Department heads, or committees of teachers respresenting the different subjects should get together to study out better means of securing correlation between subjects. This may be done by making arrangements to the effect that unnecessary repetition of subject matter be eliminated. The units may be planned to touch more than one subject and credit may be allowed in each subject. For example, a pupil may choose as his subject in English composition, one dealing with other subjects. He might select a topic previously comtemplated by the commercial geography teacher. A written assignment in commercial geography can be checked by the teacher of English.

This can be done, however, only when a spirit of cooperation exists between the teachers, departments, supervisors and principals. Also teachers attempting to make these correlations

must have more time. Most teachers at present, with their heavy teaching load and extracurricular activities have too little time for this activity. To be effective they must have sufficient time to thoroughly delve into this matter.

Summary. Commercial geography as a subject, can be justified in the curriculum. It meets the seven cardinal objectives of education: Health, Worthy Home Membership, Citizenship, Leisure time, Fundamental Processes, Vocational Efficiency and Ethical Characters. These aims are quite extensive in Commercial geography.

In selecting the content of the course, we must consider the most important of these objectives. The community needs, the time allotted to the subject in the curriculum, state requirements are some of the factors to be considered.

CHAPTER III.

EARLY METHODS OF TEACHING THE SUBJECT

HISTORY

Changing Objectives. The teaching of economic geography has undergone several changes during its brief history. This has been due in great measure to a change in aims and objectives, and therefore of content. The author has made a study of several texts, old and recent, and has recorded the changes in trends in the teaching of the subject. Its rise has taken place mostly during the early 20th Century. G.T.Renner* says,

> "No subject in the modern school curriculum has passed through as interesting an evolution as has geography. Geography, 'The Mother of Science' has given birth to a half a score of daughter sciences, which possess clear cut fields of subject matter but its own field has been but illy defined, ... during which the content has been changed almost beyond recognition. Depending on the interest and aims of its proponents, geography has at times been astronomical, mathematical, cartographical, navigational, explorational, geological, anthropological, encyclopedic or merely descriptive."

When the subject of commercial geography was first taught in the 18th century, in Germany, where it is believed to have originated, it was known as Kaufamnnsgeographic or Traders Geography. Emphasis was laid on facts rather than on fundamental

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* Renner G.T. "The Geography Curriculum", Jour. of Geog. Vol. 29 Nov.1930 p.345

causes.

A few years later came a slight change. As foreign trade expanded and products were interchanged between nations, the pioneer teachers shifted to a presentation of products, with little emphasis on geography.

The subject matter comprised unrelated scraps of information concerning anything and everything useful, for a merchant to know, with special reference however, to transportation and trade. It was from this class of works that the name commercial geography was borrowed, and by reason of this origin commercial geography has tended to deal with accomplished facts rather than causes, and with the movement and circulation of goods rather than the fundamental matter of production.

The next change was caused by the discovery on the part of the teachers that the pupils were weak on place geography, and other geographic facts. So they added this element to the course. They were taught separately with little or no close tie-up, between the two. Later a closer relationship was observed.

There had been little or no attempt to explain the mutual economic interdependence of one world region with another, nor to explain the effects of geographical factors on industrial and commercial problems.

We had a further development in the teaching of the subject when it was observed that man was directly involved in products.

Man depended on these products; certain products had a necessary dependence on man. Teachers showed this relationship and mutual interdependence between man and products. The idea of cause and effect was beginning to be felt in some classes.

Next came the idea that certain processes were important. The evolution of methods of wheat production, cotton ginning, etc. were valuable steps in man's progress, as well as interesting side lights. These had a profound effect on man, and as such deserved some consideration in the field of geography.

Throughout the above changes in content we observe that the most noticeable change in economic geography teaching has been the shift in emphasis from memory to thought, as the main objective. There has been a change in texts to correspond with this changed attitude, a change from the catechism and encyclopedic type to the problem and project type. The teacher's job had been to see that the matter was memorized.

Present day methods. These developments now bring us to the present day methods. We now emphasize the human responses of geographic environment. We see that there are three factors to consider, physical, economic, and human. The physical phase of geography includes place geography, topography, climate, soils and minerals. The economic phase places its emphasis on production in regions of plenty and scarcity, its distribution with its resulting transportation and commerce. The human phase considers capital, labor, and factors favorable to man's

highest development, such as how man makes use of these factors in the form of new inventions, faster means of communication and transportation, and thus partial prevention of famines of the world.

The more recent trend is to stress causal relationships and principles. The interdependence of the geographical factors and their influence on man. The pupils are now learning, not the description of what the situation is, but why it is what it is.

Even Place Geography as an economic geography objective has been de-emphasized according to Cubberley*,

> "This place geography has been crowded back gradually, with the passing of time, and instead of it there has grown up a considerable amount of emphasis on the more functional aspects of the subject."

Since shortly before the war there has been a continued tendency to transfer, or shift, from the teaching of place and descriptive geography to relational and interpretive geography. This trend has become very pronounced in the grammar grades, according to Cubberley**, where

> "both teachers and supervisors have since been insistent upon flexibility in work and assignment, the use of current events teaching to motivate the instruction, the study of types, and projects and problems, ... and a new emphasis on social and political rather than

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* Cubberley, Ellwood P. - "Modern Methods in Teaching Geography", p.81

** Ibid. p.95

the physical and locational aspects of geography teaching."

Edith Brill* includes a pertinent thought:

> "The world war gave impetus to the dissatisfaction which had been gaining ground from some time regarding the teaching of geography ...... Also motion picture photography, an era of prosperity, automobiles, airplane, and others have made us travel minded and world curious."

William T. Miller says:**

> "The old style geography, in vogue generally until 1900 or thereabout, was essentially a factual study. Its predominant aim was to learn facts about the earth, its products, inhabitants and activities. Since the aim was primarily a fact knowledge, the common method was the assignment of definite material to be memorized, The test of achievement in geography was the accurate remembrance and repetition of facts. .... It is from the consideration of these judgment forming objectives of the study that the problem and problem-project methods of teaching geography have become prevalent. And just as in the past the factual content, and the memory method were almost exclusively emphasized, now in some quarters, the problem method and the judgment forming objective have been the "ne plus ultra" of geography teaching."

The war caused map interest, and created food and equipment distribution problems etc. Crawford and McDonald*** make the following observation:

> "There has been a steady demand for more information and clearer understanding of the people of other nations of the world."

* Brill Edith "What Method Shall We Use in Teaching Geography", Jour. of Geog. Mar 31 p.126

** Miller Wm.T. "The Balance between Fact and Judgment Work in Geography", Jour. of Geog. Vol.28 Oct.1929 p.300

*** Crawford and McDonald "Modern Methods of Teaching Geography", p.13

UNCERTAINTY AS TO SUBJECT MATTER TO BE INCLUDED IN THE COURSE

Uncertain Subject matter. In the early days of the subject a teacher of academic, or maybe of a few commercial subjects, was asked to give a course in commercial geography. He had little to assist him, as good textbooks were few and far between; his training was not along these lines, and visual aids were considered handicaps.

No other subject in the commercial course presented such uncertainty to the teacher, so far as subject matter is concerned. He had before him a large number of possible objectives. The contents of the course were so broad, and the wealth of material so varied, that the teacher was at a loss as to what is of the greatest value and importance. In the early days this information was not properly segregated, or analyzed. He had to gather whatever statistical information was available. The aims of the course were not organized at the time. Hence he was uncertain as to just what should be taught and how much should be taught.

Due to the development of geographical knowledge there has been a tendency to divide the subject into several separate sciences as physical geography, climatology, astronomy, economic geography, geology and numerous subdivisions.

The tendency at present in reference to commercial

geography is to make it a tool for the solution of business and economic problems of the world's industrial concerns which are forced to spend great sums in seeking a solution of transport, markets, raw material problems.

Lack of Texts. The early pioneers of commercial geography teaching were faced with another handicap in that there were scarcely any texts available on the subjects. What few there were, were hastily put together, and the authors were uncertain as to what objectives should be met in designing and writing their texts. The early textbooks, because of the availability of United States records contained information as to imports and exports. The texts followed closely the different stages in the evolution of the subject. They stressed, at first, facts, then products, then geographical information, then the human phase, and later the combination. Prewar Textbooks, like methods, are no longer in vogue.

In addition to textbooks, which serve as a foundation for classroom instruction, teachers now employ as aids, newspapers, current periodicals, books of travel and description, maps and illustrated circulars. Training the pupil toward library habits for problem solving is another trend. Even the elementary school textbooks are preparing for high school work by giving larger amounts of material on economic and industrial subjects. Edith Brill* says:

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* Brill Edith "What Method Shall We Usè in Teaching Geography", Jour. of Geog. Vol.30 Mar 1931 p.129

> "The old formal text book method of teaching and the memoriter method of learning, taught us many facts about the world in which we live, but we have come to see that there is a richer meaning in the study."

Lack of Teacher Training Courses. The early and even recent teachers of geography were satisfied to place a text in the hands of the pupil and say "Your lesson for tomorrow is from 40 to 45. Study the matter well for your recitation tomorrow." I might also add that this method is altogether too prevalent even now among teachers of commercial geography. Too little attention was, and is, given to various methods of effective presentation. Too often excellent methods of presentation of the subject are ignored or slighted. There was, and is, no studied attempt on their part to avoid the monotony of "study the book", and recitation. They fail to realize that here we have a subject calling for no one method of presentation.

The changed aims and objectives demand a new skill in classroom procedure. Wider reading, knowledge and a broader acquaintance with geographical and historical facts, political and social relationships, and ability to handle social problems are desirable teacher abilities. There must be, says Cubberley",

> "An ability to impart the more important geographic facts in a way that leads to a sympathetic understanding of nature, geographic types, intercommunication, trade and industry and economic relations."

We concede the point that "teaching is an art" while

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* Cubberley Ellwood P. "Modern Methods of Teaching Geography", p.20

"method is only a means to an end" and that the best method in the world is of little value to a poorteacher. However, such teacher training courses as "Methods of Teaching Economic Geography" point out a number of valuable devices, methods, and aids in an effective presentation of the subject. These aid in conserving his own time and energy, and the time and energy of his pupils. The alert teacher will use the methods and devices that can be applied to different phases of the subject matter to be taught.

In speaking of the advantages and disadvantages of the flux in aims Renner* says:

> "The more important of these handicaps are (a) a lack of prestige in the estimation of school administrators and the general public; (b) a dearth of trained teachers who possess more than a mechanical or rote knowledge of geography and who regarded geography as their most important line of work; (c) a scarcity of good textbooks and (d) the possession of a very miscellaneous and poorly organized curriculum in geography."

Geographic Societies and magazines have performed an invaluable service to geography and to teachers of geography by publishing interesting geographic facts. The National Geographic Magazine and the Journal of Geography are some of the sources of latest developments, and latest information in geography, and in teaching methods.

Lack of Visual Aids. In an early geography there was an author's statement that pictures served to divert the attention

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* Renner G.T. "The Geography Curriculum", Jour. of Geog. Vol.29 Nov.1930 p.351

of the pupil rather than to inform his mind, or improve his taste. In the early, recent, and altogether too many present day classes of economic geography too little attention was and is stressed upon visual aids. These include wall maps, exhibits, (from industries, teacher's collections and pupils' collections,) specimens of one kind or another, pictures, observation trips and the like. The development of the map makers' trade, makes it possible to represent altitudes, climate, etc. I shall go into more detail on these aids later in this study. I am now pointing out the fact that our past teachers, for one reason or another, were forced to teach without these aids. "Seeing" specimens and exhibits in addition to the "reading" in the text and the "hearing of the explanation, forms a vivid, more interesting, and therefore, more lasting impression.

Summary. The old style of commercial geography until about 1900 emphasized factual knowledge- facts of the earth, products, inhabitants, and activities. It stressed memory instead of judgment-forming ability. Later, judgment-forming and relationships were stressed.

The early objectives of commercial geography were quite uncertain. The textbooks, because of the vagueness of the subject matter, were not effective aids for teaching. Teacher training courses are of recent use, but are very helpful. The use of visual aids, at first frowned upon, is rapidly increasing.

CHAPTER IV.

METHODS OF TEACHING ECONOMIC GEOGRAPHY

Need of method Suggestions. As I previously stated there is no commercial subject which presents more perplexing problems to the teacher than does commercial geography. The variety of its aims and objectives, the content of the subject matter, and the wealth of possible material, cause confusion not only as to what is to be taught, but also, how it is to be taught. The subject matter consists, then, of different fields of activity. It is so varied that Renner* suggests more than one year for high school geography when he writes,

> "However (physical geography) is absolutely prerequisite for sound work in the year of economic geography which is to follow."

Hence the methods of presentation, it is logical to observe, might be entirely different and varied. A method which is quite apropos in one instance may be entirely out of order in another.

With increased attention given to the matter of individual differences in pupils, many new methods for providing for

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* Renner G. T. "The Geography Curriculum", Jour. of Geog. Vol.29 Nov.1930 p.348

these differences have sprung up. But let us see what the methods have been up to five years ago. Symonds*, in his survey previously mentioned, received the following replies to his questionaire on methods:

> "The information given showed such marked uniformity in methods of presenting physical geography, that to mention "recitation, laboratory, and field trips" covers the majority of cases. Other methods named are: semi-laboratory, demonstration and discussion, textbook, daily question with test every two or three weeks, question and answer, no laboratory, and recitation and lecture."

That lack of uniformity seems to characterize the methods used in presenting commercial geography is evidenced by the following quotations in his article:

> "Visits to local industries by class; visits by individual students and reports to class; making of exhibits; reports on articles read; note books or files; clippings; maps; visits.
> 'Study of complete text generously supplemented with current matter. Application to Southwest emphasized.'
> 'Combination of lecture, discussion and laboratory methods.'
> 'Regular high school classes.'
> 'Largely outlined-textbook.'
> 'Supervised study.'
> 'Five recitations per week.'
> 'Class discussion and investigation.'
> 'Laboratory along line of Dalton Plan.'
> 'Question and answer.'"

It is my purpose in this study to suggest from my own experiences, the experiences of authors, of geography textbooks and current articles, of teachers of the subject, and from

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* Symonds Clare, "Geography in High Shools", Jour. of Geog. Vol.28 Jan. 1929 p.27

** Ibid. p.28

attendance in a class on "Methods of Teaching Economic Geography", methods and devices which may be effectively used, and to point out desirable sources of projects and problems.

I have listed a number of aims and objectives that may be kept in mind by the teacher. It is, however, much more difficult to tell teachers how these aims and objectives may be attained. The "what to teach" is far easier to state than the "how to teach" in any subject. Staples and York* concur in this statement whan they say,

> "The 'how' of teaching in all subjects is much more difficult to define than the 'what' of teaching."

I am mentioning a large number of possible methods of teaching economic geography and phases of the subject. I am not claiming that a particular method should be used in all localities for the same subject matter, and that the results will be the same. I do point out, however, that the same method should not be applied to all aspects of the subject.

As I previously stated, teaching is largely an art, and methods are only a means to an end. A strong teacher with a profound knowledge of the subject matter, and of a magnetic and interesting character will be able to impart his information in a clear, interesting and convincing manner, so that his pupils may obtain maximum results, without the use of many

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* Staples and York, "Teachers' Manual - Factors of Economic Geography", South-Western Publishing Co. p.5

so-called modern methods and devices of teaching. It would be assuming too much on my part to expect a "pedagogic artist" to approve of my particular manner of teaching in every detail. Every teacher possesses a style of his own.

On the opposite hand the best of methods and devices will not give maximum results in the hands of a poor teacher. By a poor teacher, I mean one who has little knowledge of his subject matter, who is uninteresting and lacks the ability to present the matter in an effective style.

For either of these two classes, and for those who could be classified between the two extremes, however, there are certain methods and devices which I am to mention which will be helpful in aiding the teacher and the pupil to save time and energy. These devices and methods are offered, (a) to aid the pupil to orientate himself, (b) to secure a better and more lasting grasp of the subject, and to perceive its value to himself, or herself. Louis Margon* says:

> "Some teachers unconsciously remain old fashioned and justify their antiquated methods rather than make the necessary changes. There is a large body of teachers using absolete methods in geography, whose sincerity and honesty of purpose cannot be doubted. They thoroly understand modern theory as such, but draw the conclusion that practice in the classroom necessarily is a different matter, ... Knowledge is divided into two classes; that which we must have for our immediate use, and that which we must know where to get, when we want it. In geography, as it is taught by many teachers,

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* Margon, Louis "Teaching the Shape of the Earth", Jour. of Geog. Vol.27 Apr. 1928 p.147

> there is entirely too much WHERE and WHAT and too little HOW and WHY.

And again when he concludes his article with:

> "It is indeed very difficult to write a model lesson. The most important element, the personality of the teacher, cannot be expressed in print. A real teacher is an artist, and his talent is highly individual."

Zoe A. Thralls*, says:

> "We need teachers with force and enthusiam, with an understanding of the meaning of modern geography, and of the special contribution to the development of the child. But these qualities are not all. The academic preparation of the teacher is a vital factor. There is no substitute for a reasonably broad knowledge of the subject. .... Only when this is true can the teachers speak freely and confidentially, question skillfully and illustrate effectively."

As to what specific training the prospective geography teacher should have, he continues:

> "The elements or fundamentals of geography, which is given in many schools under the title "Principles"
> 1) Principles of Human Geography
> 2) Economic Geography
> 3) An intensive course in the geography of North America,
> 4) An intensive course in the geography of Europe ,
> 5) A field course,
> 6) Geography of World Problems,
> 7) Two electives from the field of geography,
>
> "..... Consequently in addition to the specific geography courses, definite work in the related fields of science should be done. .... The social-human side of the teacher's preparation should not be neglected. .... No teacher today no matter how well prepared in his subject, can wholly neglect professional preparation. Twelve semester hours of work in education should be completed. .... In addition there should be practice teaching requirement of at least twelve semester hours, ... to secure an understanding and an appreciation of the correct presentation of his subject.

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* Thralls, Zoe A. "Qualifications requisite for Teaching Geography", Jour. of Geog. Vol.28 Sept'29 p.244

> "Geography even more than any other subject requires something in addition to a mastery of the subject itself, something in addition to a general education, or even technical skill....He demands enthusiasm and the ability to transfer this enthusiam to others."

Please bear in mind that these methods and devices are suggestions to an alert teacher. These may profitably be used by selecting, and applying the best features to one or another phase of the subject matter. Staples and York* aptly express the idea when they say:

> "Just as a merchant realizes the necessity of ever changing his show windows so that his public will not be indifferent, irked and uninterested"

so will the teacher vary his style or presentation of the matter.

Harlan Barrows** gives his version of an effective teacher:

> "Whatever else is involved, we may be sure that the effective teacher of geography will stress active learning as against passive learning, will guide pupils carefully in their use of the tools and raw materials of geographic study, and will seek always to develop in them the ability to think and do, not absorb and remember."

Before mentioning the specific methods of presenting this subject I would like to call to mind certain general pedagogical facts and principles which underlie all special methods. It is appropriate at this time to recall some of these fundamentals of all teaching and show their application to this

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* Staple and York, "Teachers' Manual - Factors of Economic Geography", South-Western Publishing Co. p.5

** Barrows, Harlan "Some Critical Problems in Teaching Elementary Geography", Jour. of Geog. Vol.30 Dec.1931 p.357

subject. Let us see how the laws of learning apply to commercial geography.

IMPORTANT PRINCIPLES OF LEARNING

Nature of learning. (a) Learning is a result of practice. The student's reactions are not always what the teacher intends. Practice is necessary. What he thinks and does in practice is important. This involves pupil activity. Regan*says,

"The pupil learns only by his own activity".

Let the teacher present time and again, the fundamental geographic factors, and have the pupils draw the conclusions as to products and industries of different countries for which the facts were given. By the time he completes the different world countries, he should have acquired a mastery through this practice.

(b) The best practice is precise practice. There must be practice in making reactions to life demands. The precise way is the form in which it will be used later. The teacher of commercial geography should allow no guess work in the early application of the effects of given facts, or causes for human responses.

(c) The best precise practice is simplified practice with life experiences. The teacher should select simple cases within the range of the economic and geographic experiences of students.

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* Regan G.W. "Fundamentals of Teaching", Scott, Foreman & Co. p.43

Home illustrations enable him to center attention more interestingly, understandingly and whole heartedly upon acquirement of the matter at hand. e.g., In a farming community, where factors favorable to agriculture are present, the teacher can show the variety and quantity of crops possible.

(d) The student should learn simplified practice at the best rate consistent with the best quality. There should be accuracy, with facility, yet not too deliberate a pace. G.W. Regan* says,

> "Learning activities that are too difficult or too easy should generally be avoided."

When the geographic requirements for production of one crop are known the teacher may easily pass on to other crops and their requirements.

(e) Thorndike** claims that the pupil should learn the subject in large divisions rather than small; that there should be an understanding or preview of all the assembled parts, and then of the individual parts separately. A general or broad situation, or principle may be stated or learned as; the effects of having geographic facts or causes present. When the broad view point is mastered, the details can be seen more easily and the products and industries more easily learned and remembered. However, there are many educators, including Thorndike himself,

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* Ibid.p.39

** Thorndike, Edward "Educational Psychology", Teachers' College, Columbia University p.70

who question the educational value of this process.

Learning takes place in accordance with certain laws. What these are, we will see shortly. The student should acquire study habits that reinforce learning.

THE MAJOR LAWS OF LEARNING

Law of Readiness. When the neural connections of the nervous system is in readiness to conduct, for it to do so is satisfying, and for it not to do so is annoying.

When the connection is not in readiness to conduct, for it to do so is annoying.

In other words, the student must have something with which to associate new elements. An attempt to teach new elements based on old elements is non-productive of results, unless the old element is firmly present in the pupil's mind. In the learning process, the procedure is from the known to the unknown. By relating teacher experiences, or by skillful questioning, the teacher may arouse a state of interest and can proceed to the new work, by showing this relationship with the old.

The teacher may use an illustration to exemplify some theory. By proper questioning and directive repetition the principle may be properly understood. T.J.Burnett* says:

"The significance of recency as a principle lies in the

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* Burnett T.J. "The Essentials of Teaching", Longmans, Green & Co. p.35

> the value of reviewing at the close of a lesson the points which you desire to emphasize and which will form the point of departure for the next day's lesson."

To check on the new learning it is generally a good plan to give two or three examples to see if the principle has penetrated i.e., in teaching the effect of climate on man, personal illustrations or experiences may be used. A check on the principles learned may be secured by various applications of the principle. It is to be borne in mind that home work is "to complete the learning of today and not a preparation for tomorrow". The teacher should not ask the student for information as to uses and functions of metallic and nonmetallic minerals until the pupil first knows the difference between the two classes of minerals.

Law of Exercise, or Use and Disuse. When the neural connection is repeated between the situation and the response, skill and satisfaction follows. When there is no repeated connection, or vivid response, in time there will be no response to the particular stimulus. In other words, the activity must be tried, and repeated. This repetition, or practice, should be precise. "Practice makes perfect" is true especially if it is precise concentrated practice. Most learning takes place in doing (right practice), and it is the task of the teacher to ascertain that the pupil does the work that way. D. Sharp* varies this statement slightly:

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* Sharp, Daniel "Educational Psychology", Mac Millan Co.1921 p.158

> "'Practice makes perfect', is only a half truth. Only practice with zeal and effort is likely to bring improvement. A great deal of practice and repetition may continue day in and day out without the slightest gain."

They should not be taught facts and methods that they must later unlearn. What is taught them must be correct, as far as it goes. It is advisable that the practice periods be of short duration, and frequent rather than a long drawn out affair. Maximum effect is obtained by distributing exercise, than by concentrating it. Short frequent drills may be employed on the student's weak points. While commercial geography is not, strictly speaking, a drill subject, there are many phases that bear frequent repetition or practice.

The problem of forgetting. This must be offset by drills. Each recall or drill may be a basis for further building. It is equally true that lack of practice results in loss of ability, and of facility of performance. Monroe, DeVoss and Regan* state that the Law of Exercise is as follows:

> "If other factors affecting learning remain unchanged, the strength of a modifiable connection between a situation and a response is strengthened as it is exercised, and up to a certain limit the strength of the connection increases with the amount of exercise but not in a constant ratio."

Law of Effect. When there is a strong reaction, or response, to a previous stimulation, or situation, and if it is

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* Monroe, DeVoss, and Reagan, "Educational Psychology", Doubleday Doran Inc. 1930 p.188

accompanied by satisfaction, the increased ability is more marked. When the reaction is weak, or negligible, and if it is also accompanied by annoyance, the decreased ability is more marked. This means that we should keep the student interested and satisfied. Reagan* refers to this point in these words:

> "Other things being equal, activities that are more enjoyable to the pupils should be chosen in preference to those that are less enjoyable."

In assigning to the pupils, various topics, in commercial geography, for unit work or project work, it is advisable that the choice be given to the pupil in the selection of his topic as far as possible.

Teacher's attitude. A cheerful, cooperative attitude depends on several factors, as physical surroundings, proper ventilation, light, etc. It depends on a proper mind set on the pupil's part, and on the attitude of the teacher. Frequently the teacher's attitude is not conducive to study to a particular student, due to a habit of nagging, sarcasm, or personal faults of one kind or another. The teacher should have a pleasant, helpful attitude, with a real desire to aid the pupil in his difficulties. He should have complete command, and in the class, know how to use it. He should have as complete a knowledge of the subject as it is possible to have.

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* Reagan G.W. "Fundamentals of Teaching", Scott, Foreman Co. p.40

This is especially true in commercial geography, a subject very broad and extensive in its scope.

It gives the pupil a considerable amount of satisfaction to be able to present forceful arguments outside of school for or against economic policies of the government, based on clear cut, stimulative information received.

THE FIVE SUBSIDIARY LAWS OF LEARNING

The Law of Multiple Response or Varied Reaction. This calls for a situation in which several responses are possible and the pupils reactions are desired. From these, the most direct response is to be selected by the student. We note here that the teacher should avoid in both oral and written questions so far as possible questions which have a multiple response. For example, Give the leading cotton country of the world. Does the question mean producing, manufacturing, or consuming country?

The Law of Mind Set, or Attitude. Mind set, or attitude, conditions the satisfaction or annoyance which is produced by response to any external situation. The teacher should see the need of fixing the pupil's minds to a wholesome, happy, fascinated attitude. If the pupil believes his mark was below what seemed to him to be a fair mark, he is apt to be discouraged, and feel that his efforts are not being properly rewarded.

The teacher should not hesitate to compliment or fairly reward a piece of work well done. A written project or unit

showing great care and skill should be commended by a public exhibition of the work.

Law of Partial or Piecemeal Activity. In a learning situation, one or another element is predominant in determining the response that is to be made by the learner. Learning is specific, and therefore the learner should tend to concentrate attention on only one aspect of the learning situation at a time. However the teacher should present a preview of the whole geographic situation first, and as he expounds the parts, or the various regional responses, he should show how they fit into the entire picture. The presentation of the parts should not include involved and irrelevant situations, and should have an aim for every lesson.

Law of Analogy or Assimilation. In a total learning situation, the responses made by the learner are those which are intimately tied up with and resemble those of the learner's previous experience. His knowledge of any physical or mental situation is tied up with some previous knowledge or situation which has some resemblance to the present situation. A knowledge of human responses to climatic conditions in one region of the world will have a parallel in the responses under similar conditions.

In other words, the pupil must have had the previous experience. It is the teacher's duty to impart this experience, if he already has not had it. The teacher should then draw on

this previous experience, taking care to show the relation of the new with the old by making contact with his experiences.

Law of Associative Shifting. 1. It is possible to get any response of which a learner is capable associated with any situation to which he is sensitive.

2. The neural bond makes the new association instinctive without intermediate connections.

Summary. There are still many old fashioned teachers of commercial geography. Many of these are acquainted with modern methods but are hesitant for some reason to use these aids. These and other teachers should strive to build up certain traits as: profound knowledge of the subject matter, a personality to command interest, and ability to get a message across. The latter qualifications may be increased by thorough acquaintance with pedagogic principles and practices.

It is advisable for the teacher to occasionally review the major and subsidiary laws of learning so that an application of these principles may be used in the daily instruction of classes. These laws are Law of Readiness, Law of Exercise, Law of Effect, Law of Multiple Response, Law of Mind Set, Law of Partial Activity, Law of Analogy and Law of Associative Shifting. It is instructive to compare the so-called newer methods with these fundamental laws of learning.

CHAPTER V.

SPECIAL METHODS OF TEACHING ECONOMIC GEOGRAPHY

We hear nowadays many expressions from teachers, and in Teacher Training classes about this method, and that method, of teaching classes. Many new methods have received varying amounts of attention from educators throughout the country.

I have classified these methods into different groups, as listed below. I have another group to which I am referring when I use the term devices or aids for teaching Economic Geography. I have still a third classification, which can really be used in conjunction with the first class, although some authors refer to them as separate and distinct methods.

Group I.

A. Lecture Method

B. Variations of the Unit Assignment Plans

   1) Permanent methods - Those usable over a long period of the year as: a) Morrison Unit Plan b) Contract Plan c) Dalton Plan d) Winnetka Plan

   2) Special Assignments - These include methods usable for single assignments, a) Laboratory b) Problem c) Project (d) Topical

C. Recitation Method - In General, a) Systematic b) Socialized.

Group II.

Miscellaneous Methods

Inductive, Deductive, Heuristic, Eclectic.

Group III.

Devices or aids.

Visual Aids (Blackboard
(Text illustrations
(Notebooks
(Observation Trips
(Stereoscope, lantern slides, still film or movies
(Exhibits - specimen collections, pictures
(Wall maps, atlases, pictures
(Graphs and map making
(Work Books

Class Activities. Class Debates, Oral Topics, Dramatization, Review Question Games.

I now propose to examine each of the above methods giving an explanation of each, together with its advantages and disadvantages. After this I shall give an estimate as to the possible future trends in the teaching of this subject.

THE LECTURE METHOD

Definition. This method is one that consists in the teacher devoting a great portion of the time in lecturing or explaining a subject under consideration. Staples and York* say:

> "Probably, in general, the lecture method should not be used in a high school class. The teacher must not

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* Staples and York, "Teachers' Manual, Factor of Economic Geography", South-Western Publishing Co. p.8

lose sight of the fact, however, that it has a place in the presentation of any subject."

Main Characteristics

1) The teacher does most of the talking and performs most of the activity during the period.

2) There is little student activity, except to take notes.

3) Oral recitations are at a minimum.

4) There is a periodic check-up by means of a written examination.

Advantages. (a) It is valuable in opening up a special topic and rapidly clears a path for this topic. It does this much more quickly than would slow questions and answers to find out what the pupil's background, or experiences may be.

(b) It is of value in summarizing the topic. The teacher is better able to hit the high spots with facility than in most of the other methods.

(c) It may be used to advantage on occasions in order to save time, and more rapidly cover ground.

(d) It is practically indispensable when a stereoscope or lantern slides etc. is used. When it is dark in the room, it is difficult and distracting to use a question and answer method. At this time, it is more easily possible for him to explain points which are not clear to the pupil.

(e) It is very appropriate for college work, but not good pedagogy.

This method has been subjected to considerable criticism.

It opponents claim that it should not be used in high schools. Although seriously criticised there seems to be a trend toward its adoption in the schools in the form of radio classes, and speeches, in spite of the fact that the speaker can't even be seen. Our pupils will, in later life, probably be receiving much of their school knowledge from this source. To my mind then we are not out of order in giving our pupils some lecture training. But it has too many disadvantages to be considered as a regular practice.

Disadvantages. (a) It means too much teacher activity, and pupil passivity except for taking notes.

(b) A tendency on the part of the pupils to do little work until the time for the written examination as they know that there is no checkup until then.

(c) A close tie-up with past experiences and stimuli is not so apt to occur.

(d) It tends to monotony unless the teacher is exceptionally gifted at interest-holding.

(e) The pace at which the teacher travels is frequently too fast for facts to sink into many student minds.

(f) Frequently the material is the result of the teachers' own research and is not so readily available to the student who misses the notes through absence, sickness, laziness etc.

(g) The generality of high school pupils cannot take notes intelligently. That is, their notes may be on unimportant and trivial points.

VARIATIONS OF UNIT ASSIGNMENT PLANS
(Special Task Methods)

Increased School Population. In 1890 it was estimated that the high school population represented about 10% of the total population of high school age. A distinctive feature of the high school population of that period was its selective character. It was far more homogeneous in individual abilities, interests, needs, objectives, industry, etc.

By the time of the world war, the percentage of high school population of high school age had increased, but as yet there was no appreciable loss in the selectivity of pupils. Since the World War, secondary education has grown by leaps and bounds, so that by 1930, the high school population, according to National Survey of Secondary Education* figures available, had grown to over 50% of the population of high school age. Since 1929, that is, during the depression years, this figure increased to perhaps 60% or 65%.

Part of this increase is due to laws in many states for compulsory education up to the years of 14, 15 or 16 years of age, but especially due to the employment situation. A boy or girl, unable to secure work, and, in many cases, absolutely uninterested in school work, feels obliged to attend school, due to education laws, or because there is nothing else to do.

Because of this factor of compulsory education laws,

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* National Survey of Secondary Education, "Individual Differences, Marking and Promotion Dept. of Interior, Office of Education," p. 1.

and because many are attending, due to the lack of anything else to do, we have in our schools today a greater heterogeneity of pupils in regard to individual differences of abilities, interests, aims, needs, objectives, and especially industry and effort. Educators and teachers realize this fact daily. Educational statistics in the form of I.Q's. (Intelligence quotients,) E.Q's (Educational quotients) etc. bring out these facts quite vividly.

Many provisions have been formulated and advanced within the past five or six years. These provisions have been offered as suggestions for procedures in treating individual differences in abilities, needs, etc.. These provisions have been adapted and incorporated in some schools, in whole or in part; adaptations of these provisions have been made in different schools, with varying degrees of success. While most of the provisions have been in affect only a few years, and while alterations are being made, still it is noteworthy, according to the National Survey,* that only about twenty-five percent of the principals of secondary schools which have tried the plans have faith enough in the provisions to voice enthusiastic support of them.

Provisions for Individual Differences. Some of the more important provisions suggested for individual differences are, homogeneous grouping, special classes for slow and rapid pupils,

* National Survey of Secondary Education, "Individual Differences, Marking and Promotion Dept. of Interior, Office of Education," p.10.

vocational guidance, variation in pupil study loads, differentiated curricula, and especially several variations of the unit assignment plans, such as the Morrison plan, the Dalton plan, the Winnetka plan, Contract Plan, Problem,project, laboratory, topical plans, Differentiated assignments, Long Unit Assignments and individualized instruction. I am not concerning myself in this thesis with methods that call for administrative procedures in reference to the above provisions. I intend to mention and discuss many of the provisions listed under teaching methods and especially those used as variations of the Unit Assignment plans.

In considering these provisions for individual differences it is well to bear in mind that there is another difference which is responsible for a considerable amount of the problems of teachers in reference to individual cases. It is the question of individual effort or industry. If a high school boy or girl is coming to school because of compulsory education laws, or because of our economic depression, he or she, in far too many instances, has not the right attitude, or interest in school work. As a result these pupils will make little or no effort to study. The attitude of lack of study, or application, is not confined to this group. All high school pupils of today are faced with more distractions than were their predecessors of twenty or more years ago. Radios, fraternities, sororities, movies, are some of the newer and more popular distractions,

in addition to "dates", dances etc. which admittedly were distractions also for former high school pupils. These distractions naturally take many minds from home work, and as a result, school achievement is affected.

School teachers know only too well that there are many high school pupils of high I.Q. with incentives for which to work, whose achievement is low, or at least out of proportion to their capabilities. An inquiry into the cause, in most cases, reveals lack of application, or study as the main cause for poor achievement results.

On the other hand, we have seen pupils with medium or low intellectual capacity, who have been able to obtain much higher achievement results than their I.Q.'s would indicate.

I have mentioned the foregoing because it provides a setting for my explanations of the newer methods used in teaching commercial geography. I have mentioned the matter of industry or effort in order that we may be in a position to evaluate the various methods or provisions suggested.

I shall treat of the Unit and Contract plans in greater detail than any of the other of the newer teaching methods. These two seem to be the most popular of these methods. I intend to consider the Unit plan first, followed by the Contract plan. After these I shall give a brief description of the laboratory, problem, project and topical methods. Many characteristics of the Unit and Contract plan may be supplied

to these methods. I shall say very little about such methods, as the Dalton, Winnetka, Long Unit assignments or individualized instruction as they are in most cases some variation of the Unit or Contract plans, for providing for individual differences.

THE UNIT PLAN

This plan, as well as the Contract Plan, may serve as a permanent procedure, or as a method to be followed for a special unit, or for an assignment within a unit. The Unit and Contract plans are two methods that are receiving considerable explanation, attention and experimentation. Each of them, as well as many variations of the Unit Assignment plan, is a result of dissatisfaction with the time honored recitation methods.

According to some educators many defects in the Recitation Method necessitates a revision in the procedure and method of application. One of the first advocates of the Unit Plan of instruction was Professor Henry C.Morrison* of the University of Chicago.

Numerous articles have appeared in conventions, schools, magazines, and journals. Most of these have been on academic subjects. R.G.Walters**, has summarized the Unit Plan of

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* Morrison, Henry C. "The Practice of Teaching in the Secondary Schools", Univ. of Chicago Press 653 pp.

** Walters R.G. "Modern Methods of Teaching Commercial Subjects", South-Western Publishing Co. Monogram #16 p.1

instruction as applied to several commercial subjects.

There are several characteristics of the Unit Plan of instruction. I shall mention the most important of these and show their application to commercial geography. First I shall point out some of the defects of the Recitation plan, which defects the proponents of the Unit Plan claim can be eliminated.

They assert that the time honored Recitation plan does not take into consideration individual differences of students; that too much emphasis is on passing grades; that the divisions of the assignments are arbitrary; that too much stress is placed on knowledge to the detriment of attitudes and skills.

As to what the Unit Plan is, we shall leave to Henry C. Morrison*, who writes:

> "A serviceable learning unit is a comprehensive and significant aspect of the environment, of an organized science, of an art, or of conduct, which being learned results in an adaptation in personality."

The main characteristics of the Unit Plan are:

(1) It recognizes that there are individual differences in pupils.

(2) Attitudes and skills are the main outcomes of teaching.

(3) Passing grades in a subject should be eliminated in favor of "Mastery" of the subjects.

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* Morrison, Henry C. "The Practice of Teaching in the Secondary Schools", Univ. of Chicago Press. p.43

(4) Teachers should make assignments, based on a unit of the subject, rather than on an arbitrary lesson assignment.

(5) The Learning Cycle must be considered.

(6) A division of Commercial Subjects according to Types of learning to be employed. This is a division recognized by Morrison*, a) Appreciation Type; b) Science Type; c) Language Type; d) Practical Arts Type; e) Practice Type.

Individual Differences of Pupils. The time honored method of group teaching has been to use a uniform plan of instruction for all members of the class. There is no distinction made for those whose ability, or ambition, is below the average. For the failures the general alibi of teachers prevails, namely, "stupid" or "lazy" and the pupils are penalized accordingly. The Unit Plan advocates, claim this older method requires little knowledge of psychological principles, little teaching ability, and little teaching effort.

With the advent of greater psychological advances there has grown a realization that there is great differences in the ability and capacity of individual students. The great influx of high school population of a very non-selective type, has produced, as mentioned before, a great heterogeneity of ability and capacities. Education of the future, to be of the greatest good to society, and to the individual, must adapt its methods and requirements to suit the capacities of individual students.

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* Ibid. p.89

The challenge has been met by a number of teaching plans which consider these individual differences as the Contract Plan, the Unit Plan, the Winnetka Plan, the Dalton Plan, the Laboratory Method, The Project Method, the Problem Method, the Long Unit Plan, and Individual Assignments, etc.

The Unit Plan advocates claim that their plans meet the individual differences difficulties by reteaching the poorer pupils, and giving the more capable students additional exercises and other assimilative work. The class may be divided into two, three, or four groups, with three as the median, a group with high I.Q's. median, and low I.Q's. We should assign work graded on the ability of pupils of low I.Q.pupils ranging to work suitable for those with high I.Q's. Those with low I.Q's should proceed as far as they are able through the different grades of work.

Attitudes and Skills as Main Outcomes of Teaching. We stated, earlier, that the four outcomes of education are knowledge, habit , ideal and power aims. Ideals, habits and powers may be recapitulated into attitudes (ideals), and skills (habits and powers).

The complaint is made in reference to outcomes that the principle aim of teachers has been the knowledge outcome. Mere knowledge, or erudition, has been held up as a main goal, though perhaps not intended as such. Hence knowledge has been associated and mistaken for education. The advocates of newer

methods insist that knowledge acquired is soon forgotten, and ignored, unless attitudes and skill have been employed in the assimulation of the new knowledge.

The advocates of the unit plan believe that these two, attitudes and skills, should be our goal as the only outcomes worth while. Some eliminate knowledge as an outcome entirely, but modificationist include it as a desirable outcome. A double glance at certain subjects reveals that the objectives or outcomes must differ. For example, typewriting, shorthand, penmanship are skill subjects. Naturally "skill" would be the chief outcome to be desired.

It may be remarked, in regard to attitudes, that there is a large number of teachers who ignore the attitude, or ideal, aim in teaching. How many teachers endeavor to instill desirable attitudes in the study of the fundamental principles of commerce between men, of principles of honesty, ethics, cooperation? How many endeavor to instill desirable attitudes in the study of the underlying principles of climate and other units? Too many teachers in commercial geography, and, in fact, in most all subjects, ignore the value of attitudes. R.G.Walters*, in defining attitudes, says:

> "By attitudes is meant both attitude of understanding and attitude of appreciation. There are many opportunities

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* Walters R.G. "Modern Methods of Teaching Commercial Subjects", Monogram #16 South-Western Publ. Co. p.6

> for teachers of commercial geography to emphasize the attitudes of understanding and appreciation."

Although it is desirable that skill be developed; that we should stress attitudes more than we do, the knowledge outcomes and aims should not be slighted. The pupil is asked by us to develop ability to reason and to use sound judgment. But ability, or skill in reasoning, or exercising judgment, calls for a knowledge of facts. Hence knowledge aims have a firm place, especially in the teaching of economic geography.

Therefore, my opinion is that if the Unit Plan is adopted it should include knowledge as an aim or outcome.

Passing Grades in the Subject Eliminated in Favor of Mastery. A complaint against high school and college students is that they have developed a psychology of "I can get by". This has been caused, the Unit Plan advocates say, by too much attention paid to marks. The pupils' efforts are frequently governed by what the teacher will accept.

Another objection against the practice of Passing Grades is the inability of a practical, or business, interpretation of a mark. An employer who is told that his applicant had a B in commercial geography or typewriting, can secure little or no value from this information as a B from one school, or teacher, with low standards may mean far less than a B from a teacher in a school with high standards.

Still another objection is the false value in the mind of the pupil when he "gets by" with his 60 or 65%. 60% or

65% efficiency on the part of a doctor, bridge engineer, typist etc. would soon end disastrously for the doctor, bridge engineer, and typist, as well as their dependents.

Therefore, claim the Unitists, we should substitute some other criterion of his knowledge, attitude and skill. Mastery is essential for the three outcomes mentioned. Hence the result should be mastery of the subject on the part of the pupil.

Now what do these advocates claim is Mastery? R.G.Walters* says,

"Mastery means learning fully and completely".

Morrison says:**

> "When a student has fully acquired a piece of learning, he has mastered it."

The standard set up as to whether a unit is partially or completely learned is that his attitude toward the subject has changed. The question is: Has he readjusted himself to change his attitude? Mere knowledge of the facts is not enough, they say, as his memory may fail him. His attitude will remain permanent if the unit of learning has been mastered.

Let us take an example from economic geography. If we assign the topic of cloth manufacturing to the student, and he studies the facts in a book, these advocates claim that he

* Ibid. p.6

** Morrison Henry "The Practice of Teaching in the Secondary Schools", The Univ. of Chicago Press p.35

would quite likely forget them shortly, and this does not denote mastery.

If this topic is presented in a manner that his attitude to cloth manufacturing is changed, he has mastered the unit. He may appreciate the speed and ease of machine operations, or of the operators. These advocates assert that his understanding of the principles of cloth making is thorough, because he has reflected and reasoned during his study of the unit. In other words, he has experienced a change in his attitude of understanding cloth making, and in his attitude of appreciation. Even though he forgets this process later he may be said to have mastered it.

The Teaching Unit. This is so fundamental to the Unit Plan that the method gets its name from this selection of the logical teaching unit. These advocates claim this method is superior to what they term as arbitrary daily lesson assignments.

Under the traditional method of assignment, the teacher makes an assignment of a chapter, or a certain number of pages, or a certain number of problems, based generally on the theory of assigning work to be done for home work equivalent to a class period of recitation. He is credited with his home work if he has completed satisfactorily the pages, or the problems, and no emphasis is placed on whether the assignment has changed his attitude of understanding or appreciation. Walters* says,

"The test of a unit of learning is whether it is a

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* Walters R.G."Modern Methods of Teaching Commercial Subjects", Monogram #16 South-Western Publ Co. p.7

> division of subject matter which can be understood, rather than merely remembered. In other words, a unit is a division of subject matter which results in a change of attitude, either attitude of understanding, or attitude of appreciation."

In applying this plan to economic geography we should bear in mind that a unit is a division of a subject which requires mastery, i.e. a unit which will result in a changed attitude, or in the acquirement of a skill. It is not difficult to select objectives in commercial geography based on the unit plan, although text books vary in the number of units, its parts and the length of material covered. The time available and the calibre of the class are other factors to be considered, as well as the time necessary for reteaching. This latter element determines the speed at which the matter may be covered.

Some suggested units are "The Work of the United States Government in Relation to Business", "Wheat", "Climate", "Lumbering", "Manufacturing", etc.

The Learning Cycle Must Be Employed. The learning cycle mentioned previously consists of a stimulus (which is too often slighted by teachers), assimilation and reaction, and the laws of learning. This latter is often neglected by teachers also. Thus the Unitists claim there are no assurances that under the older methods the subject matter has been learned or assimilated.

The Mastery Formula. To overcome this deficiency

Professor Morrison* has devised his Mastery Formula.

> "Pretest, teach, test the result, adapt procedure, teach and test again, to the point of actual learning."

This formula considers the steps of the learning cycle. It is really the theory of teaching, under the Unit Plan.

The Teaching Cycle. Morrison's** teaching cycle is his method of specifically adapting the mastery formulas in terms of technique. This teaching cycle consists of five steps: a) exploration, b) presentation, c) assimilation, d) organization, and e) recitation.

a) Exploration. In beginning the unit there should be an exploration of the pupil's experiences, and background knowledge of the unit to be covered. It is the pretest of the Mastery Formula. The purpose of this pretest, or exploratory information, is to indicate the teaching procedure to be used, and the student material available. It should somehow reveal the pupil's experiential background. This test when statistically computed, shows him the group median, and the range, as well as where each stands.

In commercial geography, if our unit is wheat, we may inquire as to the student's present knowledge of wheat, regions, of growth, machinery, milling, etc. He may already know many facts which will not require present teaching other than

* Morrison Henry C. "The Practice of Teaching in the Secondary Schools", Univ. of Chicago Press. p.79

** Ibid. p.220

for repetition, emphasis, or relation to some facts to be brought out later.

The teaching method involved may consist in oral questioning, oral discussion, written questions (either) subjective and objective types.

This exploratory period should not consume more than one period and may be done within that time. The National Survey* showed that the time given ranged from 3%, to 13% of the time devoted to the unit, with the median about 5%. Purpose-is to give a preview of the entire unit, arouse interest, and correct and explain errors.

J.H.Coleman**, in explaining his method of conducting this period, writes:

> "The boys readily saw the futility of rehashing what they knew and were glad to agree to "take" these four exercises, score them by the answers given, and make a return of what they had missed. Since their exercises were not marked for grades, and since the value to the boys was quite evident -to pass over that which was known in order to study that which had been forgotten, there was no motive for dishonesty. By this diagnosis, we were able to "test, teach and test again."

Ruth Robinson***, gives her experiences:

> "Pretests and achievement tests should be built covering each unit to be taught. A Pretest may serve as a measuring stick - for marking the learning which has taken place before the study of certain unit. The results

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* National Survey of Secondary Schools, "Individual Differences, Marking and Promotion", Dept. of Interior, Office of Education p.240

** Coleman J.H. "Practice Exercises in the Teaching of Geography", Jour. of Geog. Vol.27 Sept. 1928 p.235

*** Robinson Ruth "A Study of Pretests in Geography", Jour. of Geog. Vol.29 Dec.1930 p.394

> when obtained in such a manner will be worth while. The checking, tabulating and analyzing of such a test can be done in sixty or eighty minutes." (Author's note - I underlined these words.)

Katheryne Thomas* suggests, as a result of her activities,

"An advanced grouping after the pretest."

b) Presentation. After the pretest of the Mastery Formula is completed, the teacher is ready for the next phase. This is teaching, which is here called the Presentation. In this step the teacher sets forth the underlying principles, together with appropriate, practical examples. This should be done in a way to arouse the pupil's curiosity and his interest. This phase is the test of the teacher's ability. No home assignment should be made unless the presentation has been fully made. He should endeavor to complete the presentation within the period, especially if he intends to make a home assignment. Morrison** says,

"The presentation is a sketch, not a finished picture." This teaching may be done by telling the matter as a story; he may sketch an outline, employ the lecture method, or encourage questions.

The teacher may wish to determine the effectiveness of his presentation. This can be done by a five or ten minute examination at the end of the period. This serves as a check on the teacher, and to keep the pupils alert during the period

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* Thomas, Katheryne "Organization of a Unit in Mathematical Geography", Jour. of Geog. Vol.30 Sept.1931 p.349

** Morrison, H.C. "The Practice of Teaching in the Secondary Schools", Univ. of Chicago Press p.272

of presentation. This involves the 3rd part of the Mastery Formula, "Test the result". If the results are unsatisfactory, the teacher may, during the next class, change his methods of presentation of the matter, and again test. If the results were satisfactory for some students, showing that they grasped the matter in the first presentation, they may be excused from the second presentation. They can then start on the next phase or step, assimilation.

Katheryne Thomas* says:

> "In reteaching each section, narrowed down to the slow, and, it must be admitted, the lazy, is small enough for informal discussion, and for considerable drill. The slow pupil can ask questions without fear of taking too much time and attention. Ideally, this part of the unit should continue until all arrive at mastery. Practically, under most conditions, this is impossible."

The National Survey** states that the respondents report that the time spent on this part of the presentation ranges from 3% to 18% with the median about 9%.

c) Assimilation. The student now begins to assimilate the information that has been presented. The scene of this assimilation may be at home, or in the classroom, under the supervision of the teacher who passes around the room to individuals needing help.

The purpose of the assimilation period is to enable the

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* Thomas, Katheryne "Organization of a Unit in Mathematical Geography", Jour. of Geog. Vol.20 Sept.1929 p.247

** National Survey of Secondary Education "Individual Differences, Marking and Promotion" Dept. of Interior p.251

pupils to master the unit. It is to lead him to an attitude of understanding, or of appreciation of the subject matter of the unit.

The National Survey* gives these as purposes of this period:

> "He must read references, answer questions, solve problems, make reports, and enter into group and class discussions. These things to be done are assimulative material."

The source of material(for wheat or climate) for this assimilation period is found in the class test, reference books, magazines, newspapers, problems to be solved, or answers to questions in the texts, workbooks, etc., or in supplementary problems of the teacher.

The teaching procedures suggested are many. One may devote part of the time to individual instruction, and part to small groups; he may observe the pupil's work and point out errors; answer questions raised by individual pupils; suggest better study methods. The classroom is made into a study room or laboratory. The class may read references during the class hour and prepare notes. The teacher may give tests, guide sheets; and other similar activities may be performed.

This assimilation period may take one period, two periods, or even a week depending on the quantity of matter to be covered in the unit. The National Survey** reports that 38% to 75% of the total time for the unit is devoted to this section, with a median of 65%

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* Ibid. p.350

** Ibid. p.352

At the end of this assimilative period an examination may be given to determine their understanding of the unit. It may be a test of knowledge, or a test on his ability to apply the principles learned. Those who show a mastery of the unit may be started on other work. Those who show lack of mastery are given more material and exercises for assimilative work.

d) Organization. After the assimilative phase has been mastered the class is assembled for the next cycle. This consists in the pupils being required to construct an outline of the material studied, in this illustration, wheat. This phase calls for productive work, rather than absorption, from the student, which cannot be properly done unless there is an understanding of the subject.

The purpose, then, of this period is to require, or to give an opportunity to the pupil to arrange in logical form the results of his studies, or activities. It is a preparation for the next period, the recitation period, in which he is to be prepared to give to the class the results of his work. He is to consider the hypothesis of his problem, if given one, the data for its solution, draw his conclusions, and check the validity of this conclusion.

The outline of wheat may be long in comparison with other units. He should collect his ideas, notes, etc. so as to present his information in clear logical form, showing the vital facts connected with wheat growing.

There is little teaching involved in this period, since it is one calling for student activity. Whatever is done may be patterned after the suggestions given under assimilation.

This phase should not take more than one period. The National Survey* reports the range to be from 3% to 20%, with a median of 9%.

e) Recitation. By this time the student should have a strong understanding of the unit, and hence be able to present his ideas. The purpose of the Recitation period is to teach the pupils the ability to present previously collected and organized facts and principles in such a way as to arouse a desirable emotional attitude in his audience, or convince the group of the intelligence and the soundness of a position taken.

The teaching procedure of the recitation period can be conducted in one of several ways: a socialized recitation, written report, oral report, debate, or discussion. The teacher may require a presentation similar to his own, or ask a number of questions. The pupils may use the blackboard for a more effective presentation of their ideas, if necessary.

The Unit Plan Considers the Classifications or Types of Subjects. Different subjects are learned in different ways. There have been five classifications made. These include a) the Science type, b) the Appreciation type, c) the Practical Arts type, d) the Language Arts type, and the Pure Practice Type.

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* Ibid. p.353

a) The Science Type. This includes mathematics, natural sciences, the social sciences, including most parts of commercial geography, and English grammar. These subjects require an understanding of principles, hence they require reflection and reasoning on the part of the student. In other words an attitude of understanding is the desired outcome. Commercial subjects of the science type are especially adaptable to this type of instruction. Climate, manufacturing process, graphs, and such are phases of commercial geography readily lending themselves to unit instruction.

b) The Appreciation Type. This type includes those subjects which affect the pupil's "attitude toward conduct". "Attitude of appreciation" is the desirable outcome, but the subjects in this group also call for reasoning. In this type we classify the fine arts, ethics, and religion. Parts of Commercial Law, salesmanship and junior business training are examples of commercial subjects lending themselves to an emphasis on ethical procedure, and hence to the Unit Plan. H.C.Morrison* says:

> "The appreciation unit deals with values. The science unit deals with understandings."

Commercial geography has sections classified under this group. In this subject the pupil learns about environmental factors affecting the human responses of peoples in various parts of

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* Morrison H.C. "The Practice of Teaching in the Secondary Schools" p.339

the world. He learns of the effect of these factors, including religion, on the conduct of these people.

c) Practical Arts Type. This type includes subjects which are chiefly directed towards manipulating equipment or changing materials. These subjects involve reflective thinking and skill procedure. Hence the desirable outcomes are "attitude" and "skill".

This group includes household arts, manual training and other mechanical arts subjects, office practice and other activities calling for muscular dexterity. This type differs from the pure practice type which involves repetition. The unit plan would require adaptation to be used in this type. Commercial geography does not lend itself readily to this type of work.

d) Language Arts Type. This type involves written or spoken expressions of thoughts, and includes all the language subjects. Phases of English, and to a certain extent shorthand, are subjects of interest in this group, to the commercial teachers. Morrison* includes in the Language Arts type, musical and dramatic expression, reading, speaking and writing.

Business English and Shorthand, however, involve more than one type of learning. The grammar section is of the science type. Composition, involving business letters, advertising,etc.

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* Ibid.p264

are of the language type. Literature of business is an appreciation type. Spelling is of the pure practice type.

Hence the Unit Plan must be modified considerably for this type. Few, if any, phases of commercial geography, might be classified under this group.

e) Pure Practice Type. These are the subjects learned through repetition. Practice and drill are the outstanding characteristics of this type. Reflection and reasoning are very minor outcomes of these subjects. There are two types of pure practice subjects.

1) The neuro-muscular type. This aims at physical accomplishment such as swimming, skating, typewriting, penmanship.

2) Automatic mental reaction type. This type includes spelling, rapid calculation part of arithmetic. It is inadvisable to attempt the unit plan with this type because, a) This type depends on repetition. b) Attitudes of understanding, or appreciation are not outcomes of this type. c) Drill on purely practical subjects cannot readily be divided into logical units.

Advantages of the Unit Plan. 1) It recognizes that other outcomes than knowledge are to be stressed.

2) "Passing Grades" is subordinated to Mastery.

3) It considers the individual differences among students. To quote from Katheryne Thomas*

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* Thomas, Katheryne "Organization of a Unit in Mathematical Geography", Jour. of Geog. Vol.30 Sept. 1931 p.248

> "For the instructor, this unit of work brings satisfaction because it stimulates the advanced student toward further effort while at the same time it provides for the beginning student, and because it increases the efficiency of instruction by enabling the teacher to be in touch with the situation from start to finish. To the student, this unit of work brings satisfaction because it is definite in aim, in procedure and in results."

G.W.Reagan* says:

> "Bright pupils are not unduly restrained, and slow ones are not hurried along at a pace that is too rapid. Each pupil may receive just the individual attention and assistance he needs."

4)It replaces arbitrary assignment by logical teaching units.

5)It uses the psychological learning processes by means of applying the mastery formula.

6)It recognizes its own limitations and possibilities in teaching certain types of subjects.

7)A closer and more intimate contact with the pupils past experiences and knowledges, and with the pupil himself.

8)It may be used for special topics, even if not adopted as a permanent plan.

9)It creates student interest because of originality of the method.

10)There are no failures or no repeaters, since each pupil must master the work as far as he goes. If he fails to complete the work within the allotted time it can be finished in

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* Reagan G.W. "Fundamentals of Teaching", Scott Foreman 1930 p.187

the next term.

Disadvantages. Passing Grades for Mastery. Just what is mastery? As previously defined, "Mastery is learning fully and completely". If this means 100% learning, what constitutes the dividing line between mastery and non-mastery is a bit vague. To my mind, the advocates of the mastery plan are guilty of issuing misleading statements. Their definition of mastery calls for "learning fully and completely. Yet, if the essential feature of the plan is to relegate to a position of minor importance knowledge of the subject, it can't be learning fully and completely. Knowledge of facts is a very important essential of any complete learning.

What about grades for tests after a presentation, and after an assimilation period? What is the teacher's standard as to whether the presentation or the assimilation was mastered? How about grades for this purpose? The teacher is hardly in position to give anything but an arbitrary decision as to whether the unit is mastered or not mastered. How about grades for those who have mastered "the units"? Is there a 65% mastery, a B mastery or a 90% mastery? This gets us back to marks again.

It is axiomatic that facts are necessary to enable one to draw accurate conclusions. It is just as important to have a knowledge of facts to secure a proper attitude of appreciation

and of understanding.

Morrison* attempts to answer the above questions as to percentage of learning, when he says:

> " There is no such thing as partial mastery. There is complete mastery, or there is not. It is as absurd to speak of degrees in mastery. Mastery implies completeness. The student as arrived."

A moment's thought on the matter, would, I am sure, reveal the absurdity of Morrison's statement. Who can say that anyone has completely mastered a subject? No matter what one's attitude of understanding, or of appreciation may be on a subject, he hasn't mastered all the possibilities even there, let alone all possible knowledge. To my mind, the pupil most assuredly has acquired only a degree of possible mastery.

How about parents' desires to know marks? When told the son or daughter has mastered the subject that will mean little or nothing. They want something definite as to a standard. "How well has my child mastered the unit", is a natural inquiry. Will colleges accept "mastery" as satisfying their requirements? The business man can still claim ignorance as to what the teacher's concept of mastery is. Is he interested in the applicant's changed attitude? Is the applicant to be paid on the basis of his changed attitude of appreciation, or will it be on what the applicant knows, and what he can do?

* Morrison Henry "The Practice of Teaching in the Secondary Schools" p.35

Individual differences. There are all kinds and classes of teachers, good, bad, and indifferent. Must the "traditional method" be cast aside for new and reputedly modernized methods because some inefficient and lazy teachers use as an alibi, for the failure of their students to pass, that the students were "stupid" and "lazy".

The advocates of the "traditional" method would admit the fact of individual differences, and would point out that conscientious teachers through the ages have attempted to pass, and succeeded in passing these pupils of "stupid" and "lazy" disposition.

The Unit Plan advocates criticize the "tradition" teachers for their methods of handling stupid and lazy pupils. They point out that we should recognize these individual differences of abilities and interests by recognizing provisions previously mentioned. Most provisions fail to recognize the factor "effort or industry." They seem to advocate that students are not lazy and indifferent, that students do not need prodding. They seem to advocate pampering such students and those who have distractions of such weight as movies, radio, attractions between sexes in the form of dates, twilight baseball and myriads of such diversions. Psychological tests show these differences of intellectual ability and achievement, and from a comparison of these may be drawn some conclusions as to the amount of effort expended. If differences of abilities exist, then the

Unit Plan advocates should not condemn too highly these teachers. When a teacher falls below the average on failures, then look to the teacher for causes of failure, but this is not a fault of the so-called traditional method, but rather of the teachers' application of the method.

The teaching Unit. Are the units of the so-called traditional method really arbitrary? Aren't the selections of the Unit Plans a bit arbitrary also? How long will the unit have to be that will cause a change in attitude of understanding or appreciation? Can't we have several changes of attitude within even an arbitrary unit? What is to be the unit? The definition offered is quite unsatisfactory. I think the division that cause units under the Unit Plan system will not vary materially from the units of the so-called traditional system. e.g. The unit of wheat seems to me to be a natural unit under either system.

Has the teacher under the unit system so much time that he can allow an extra period after each presentation and again after each assimilation, for this work in class. I think not. I think a conference, or even class sessions held after school are a better remedy for the lazy pupil.

Pretest! Test after presentation! Test after assimulation! Another test at the conclusion of the unit! Where is the time for all this testing, especially if rather complete objectives

for the course must be given? This method involves far more time for the completion of the unit than the older methods. This criticism is applicable to most of the provisions for individual differences.

Where is the teacher going to find the time to check and correct these papers to determine attitudes, etc. Is a teacher expected to spend four to eight or twelve hours after classes checking home work papers, tests, etc.? He must study the content matter for his subject; divide his work into units; preparing lesson plans; take courses, and study for these. I propose the question: Which is more valuable to a teacher and the class? Time spent preparing for a lesson, or time spent making out marks? Give tests, yes, by all means! But the program of testing, testing, testing and more testing, called for in this plan would defeat its purpose among the greatest number of teachers. G.W.Reagan*says:

> "It is often very difficult for the teacher to keep track of the progress of each pupil."

Confusion within the subject, as well as with other subjects and departments would result. The entire department, and even the entire school should be on the Unit Plan system to make it work effectively, to avoid friction. Problems of backward students, gym and library schedules must be worked out.

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* Reagan G.W. "Fundamentals of Teaching" Scott Foreman 1930 p.64

Considerable variation is necessary to make the Unit Plan workable for many subjects such as Practical Arts and language. It will hardly work at all for skill subjects and not well for Pure Practice subjects.

Summary. The Unit Plan has been recommended as one of the provisions to provide for individual differences, and as a suggested method to be substituted for the time honored recitation plan. The unit plan has several main characteristics. Among the most important of these are, (a) attitudes and skills as the main outcomes of teaching, (b) the teaching unit, (c) mastery of the unit, instead of passing grades, (d) the Learning Cycle, including the Mastery Formula and the Teaching Cycle.

It has many advantages as well as disadvantages. It is my opinion that its disadvantages in its present form outweigh the advantages. Many alterations will have to be made to this method for it to be successful. If the Unit Plan is to be used at all it will have to be modified considerably. Where it has been used, it is the common experience that it has been modified. There seems to be no uniformity as to its practical application, even where it is used. This is true, whether the plan has reference to schools, or subjects.

The advantages connected with this plan can be incorporated in the recitation plan, if it is not already an element of the time-honored method. It may be used to advantage to vary the

style of the regular or permanent teaching methods used, especially so, if the unit is one fundamental to the subject, in which mastery of the essentials is necessary. Here I mean mastery in the sense, that knowledge of facts is also required. Pretesting and logical units are two features that may be brought into any system, whether it is the recitation plan, or any other plan. A changed attitude of understanding or of appreciation can be incorporated into other systems, if these attitudes are considered by the teacher to be desirable.

The Mastery Formula is the keynote of this method. In theory, the plan appears to be psychologically desirable. However the term is misleading. To us the term means complete learning. The Unit Plan advocates claim that this is true. Yet they profess to stress attitudes and skills, and do not regard knowledge as a necessary outcome. No learning is complete, no unit is mastered, unless there is adequate knowledge.

THE CONTRACT PLAN

That the Contract Plan is still in its infancy is evident from the fact that there are few good definitions, or expositions in the details of this plan. It is a variation of the Dalton plan (to be mentioned elsewhere). Staples and York* assert that

> "this method is an adaptation of the problem method. Under the plan, a given problem may be divided into two, three, or more parts."

The fundamental idea behind this plan is an evaluation of varying quantities of work to be done within a specified time. The emphasis is on satisfactory completion of the contract rather than on mastery of the unit, according to R.G.Walters**, who has analyzed this plan:

> "The theory of this plan involves the laying out of a rather definite piece of work to be done. The pupils, in a sense, contract to do a given piece of work rather than to master a new problem. The doing seems to be the spirit rather than the objective of learning as a result."

Edith Brill*** considers the Dalton and Contract plans to be almost the same, when she says, in reference to the Dalton Plan worked out by Miss Parkhurst in the schools of Dalton,Mass.:

> "The plan is based on the idea that growth in character is the foundation of education and that schools are socialized laboratories where community life and community conditions prevail.... Children are given

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* Staples and York "Teachers' Manual - Factors of Economic Geography", South-Western Publ.Co. 1929 p.7

** Walters R.G. "The Unit and Contract Plans of Assignment in Commercial subject." South-Western Publ. Co. p.15

*** Brill Edith,"What Method Shall We Use in Teaching Geography" p129

> real jobs under an assignment plan called a contract for a month's work in advance. They may do this work when they choose, within the month's limit."

H.C.Lathrop says:*

> "The contract simply stated is to give a child a definite task to do and to permit him to do it when he wants to, within certain set limits, the teacher aiding when the pupil needs the help. Such a method assumes certain things: (1) That the pupil understands clearly what is to be done and accepts the responsibility for doing it. (2) That the unit of work is definite and well organized. (3) That there is a well written body of literature on the unit. (4) That such literature is within the reach and comprehension of the child. (5) That duplicating apparatus, such as mimeographs and other duplicating machines, are at the disposal of the teacher. (6) That the teacher has time for the extra work involved. (7) And, finally, that the teacher has analyzed the situation carefully and knows what he is doing.

Characteristics of the Contract Plan

1) Recognition of Individual differences.

2) A definite task, or series of tasks, to be performed within a certain period of time.

3) The use of "guide sheets", or a statement of contract terms, for use in fulfilling the contract.

4) The grading is based on a satisfactory completion of a minimum result, and higher grades are given for completing additional assignments.

Recognition of Individual Differences. The recitation method, recognizing no differences in assignments, attempts

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* Lathrop H.O. "An Experiment with the Contract Method in High School Commercial Geography", Jour. of Geog. Vol. 28 Jan.1929 p.30

to secure the same amount of work, from all, whether of superior or inferior ability. The brightest pupils finish the assignments before the allotted time is up and the slower group requires more time. The contract system attempts to overcome this by assigning a minimum quantity to the poorer pupils and a maximum quantity to the best pupils. What we said in regard to individual differences under the Unit Plan is applicable here.

Laying out the Units of Work. The work assigned should be a logical unit of the subject matter, whether it involves one day, two days or two weeks. The "job" may call for assignments in the text, reference books, laboratory work, etc. The maximum required of the lowest level should coincide with the minimum required of the highest. The time limit should be the same for both groups. Walters* suggests:

> "The minimum contract required should cover all the essentials. The additional work to be done by better students is represented by purely "extra" work which fits in, however, with the general topic covered by the minimum contract."

The minimum requirements should include the essential objectives; the higher and the maximum requirements, call for extra knowledge and information.

During the period the teacher may assist the poorer pupils while the better pupils need little assistance. All start

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* Walters R.G. "Modern Methods of Teaching Commercial Geography", Monograph 16 South-Western Publ.Co.1932 p.15

the contract, and end it at the same time. If the assignments are too lengthy or too short, adjustments can be made. When the contract is completed, a review or recitation period may be conducted. A presentation of the high spots of the new contract may be given at the outset.

Use of the Guide Sheets. At the beginning of the contract the pupils are given guide sheets, or other forms, which inform the pupils as to the tasks which are to be performed to secure the successively high grades. The contract, or job sheets, may be mimeographed as there are few standardized forms on the market; they may be put on the board. Like all contracts, certain details as to procedure must be stated. It may mention;

1) The unit or section of the subject to be covered.

2) A statement of the objective (which should be motivated) to be obtained.

3) A statement of the time limit in days, or date due.

4) Sources of information as the textbook, and reference books, magazines etc.

5) Tasks to be performed as memory work, written work,etc.

6) A statement of awards, or consideration, for the varying degrees of efficiency and performance.

Grading scheme. Most teachers use either the letters, or the % method. The satisfactory completion of the minimum amount of work entitles the pupil to D, or 65% to 70%. When this is satisfactorily completed, he can start on the work necessary to

secure a C. This, therefore, includes D work, as well as the extra work to get C.

Suggested Teaching Procedures: Some who are using the contract method use a procedure similar to the unit plan procedure (except mastery is not required). Individualized instruction procedure is another suggestion. Various teaching steps may be used in employing the contract method. 1) Introductory Step, 2) Individual work (or Laboratory period.) 3) Period of class discussion and testing period (reteach and retesting.)

A. Introductory or exploratory step. Its purpose is to give an overview of the contract subject matter, or a survey to arouse the pupil's interest, to diagnose his needs, to locate the pupil needing special help, to see what his problems are.

Suggested Methods are class discussions in which the purpose and general content of the subject matter may be made clear by the teacher, oral questioning, suggested methods on how to study. The class may meet and work as a group; the teacher may correlate new matter with the old. The unit may be sketched by teacher, or objective testing may be applied.

In regard to the time allotted to this phase the National Survey* reports a median of about 10% of the total time.

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* National Survey of Secondary Schools "Individual Differences, Marking and promotion". Dept. of Interior, Office of Education p.340

B. Individual or Laboratory Period. Its purpose is mastery of the matter and development of initiative, and self direction, to provide opportunity for self-expression and creative achievement.

Suggested Methods are: the teacher may consider the classroom as a study room, or laboratory for collecting references; the teacher may answer questions raised by individual pupils, observe pupil's work and point out errors, suggest better study methods. He may have the pupils read references, collect data etc. There may be an informal discussion of common difficulties. Pupils may work part time individually or part time in small groups. Objective tests may be given.

In regard to the time allotted for this work, the National Survey* reports the median time to be 54% of the total time.

C. Period of Class Discussion. Its purpose is to provide an opportunity to interchange ideas, and information, and to correct wrong notions. It tests the pupil's ability to present previously collected and organized facts and principles in such a way as to arouse a desirable attitude in his audience. It provides an opportunity for summarization, to give practice in oral discussion, practice in speaking before audiences. It provides an opportunity to socialize experiences.

Methods used: The pupils may submit oral reports and floor talks. The teacher may present uncovered or new,

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* Ibid. p.342

interesting matter. Written reports, debates, general discussions, or teacher summaries are other possibilities.

Time. The National Survey* reports that the median time about 33% of the time.

D. Testing. Its purpose is to learn if the unit is mastered or satisfactorily learned, to ascertain if there is basis for reteaching, to motivate pupils. It enables the teacher to evaluate his or her work. The National Survey** reports that 2% of the respondents use the test for a mark. (I doubt these figures.) When given it may be used as a pretest during the contract period or after the contract period is completed. The test may be constructed by the teacher or by the Department Head. In form it may be an objective or standard test, or a judicious use of the essay type of examinations, especially to test attitudes.

What it measures: Objective tests measure factual and informational materials and skills. Essay type questions may aid in measuring attitudes, especially if taken in conjunction with an observation of the pupil's conduct and reactions. Oral examinations are only partially indicative of the pupil's achievements. Problems, oral or written, may be given to determine some reactions.

An Application of the Contract Plan to Economic Geography:

* Ibid. p.343
* Ibid. p.344

Before I narrate my experience with the Contract Plan, I shall give the background. I am teaching at Rochester, N.Y. A private high school for boys only. Its school population is 1000 to 1100 boys. It has no commercial course now, having suspended it three years ago. It is, therefore, a school for academic pupils. I taught the commercial subjects when the course was in effect. This is my third year in teaching economic geography.

The school has Regents' examinations in January and June, and quarterly examinations about November 1st, and in April. These examinations determine the pupils' marks for those issues of the report cards. The cards were scheduled to be issued on two other occasions during the year. The "local marks" were secured by daily recitations, homework, short examinations, etc. One of these periods occured near the end of the year, April 3 to May 18 (Easter holidays intervening) giving the author five weeks in which to try out the Contract Plan. Then I asked for, and received permission to have the report card marks in economic geography made up of the contract results.

I decided to have five contract weeks, one contract for each week. The textbook used is Whitbeck's "Industrial Geography". The class covers approximately 25 to 30 pages of our textbook per week. There were 34 students consisting of 25 seniors and 9 juniors. In most cases, the Seniors needed the subject to insure graduation. It was, therefore, a poorer

group of pupils.

Instead of using guide sheets the contract was partially dictated, and other parts were put on the board.

I am not particularly proud of my handling of this contract. I used it last year and I can see many places where there is room for improvement. I would like to perfect the method this year but the school authorities decided to issue only four marks this year, based on the four examinations. In my opinion the contract system is effective only if the report card mark is the result of their contract marks. Therefore, I did not carry through my intention of perfecting my application of the contract system.

I therefore hesitate to include in this thesis my experience with the contract system, but have finally concluded that it would at least serve as a setting for improvements that may be suggested to a reader, based on a study of this application.

The topics to be covered. April 3 through 13 (Easter Holidays started then) pp.431 to 463 - Finland & Baltic States, Poland, Austria, Hungary, ChechoSlovakia, Rumania, Balkan countries, and Russia in Europe and Russia in Asia.

April 24 thru April 28, pp.465-491 - China & Japan

April 31 thru May 4, pp.493-517 - Finish Asia

May 7, thru May 11, pp.517-544 - Australia, New Zealand, North and Central Africa.

May 14, thru May 18, pp.544-570 So.Africa, World Commerce to end of text.

Statement of time limit. Each contract except the first, lasts for the school week. All work must be in Friday to receive credit.

Objectives of each contract: To know the geographical factors of each of these countries and the human responses resulting from these, as will be stated later in the contract. We also had in mind other objectives mentioned earlier in the year.

Textbook Assignments. These were given above. References. Any book on geography which contains the desired information. The author had six or seven texts on his desk, and more in the library.

Written Work. I am stating these in the next section.

Grades:

Contract I. 65% to 69% inc.

Read the pages in the text and pass the examination given at the end of the week.

Contract II. 70% to 79%

a) Fulfill conditions of Contract A.

b) Answer and hand in within the time specified, the questions given on the next page in table form.

Answer in notebooks in table form as follows:

	France	Germany	Italy	Spain
Topography				
Climate				
People & Government				
Agriculture, Grazing & Products				
Forest & Products				
Mining & Products				
Commerce				
(Favorable Factors				
(Nations involved				
(Exports & Imports				
Cities & Bodies of Water				
Miscellaneous				
(future prospects				
(Peculiarities				
(Remarks				

The information given in answer to this assignment was not to be confined to one page. It might run into two or three pages, depending on the unit being covered for the contract.

Contract III. 80 to 90% inc.

a) Fulfill satisfactorily Contract I.

b) " " " II.

c) 1) Read one reference text on all the countries included in the contract week with a one page summary of the book read.

2) Put into notebook a clipping based on economic geography

referring to any country covered within the same conditions as stated above.

I stated that this agreement was temporary but would hold for the 1st week. If alterations had to be made they would be stated in time for the second contract week. I had in mind the fact that the assignments might be too long, or too short; or the marks out of proportion; or that alterations might be in order in reference to the examination.

I wasn't sure how thoroughly the outside readings were digested. At the beginning of the 2nd week the following change was made. A question was to be asked in the Friday examinations, on each text read.

I had to get a fact question (mentioned only in that text) from each of the texts on my desks. For any other text, the pupil was to answer questions based on his supplementary text when he came up for credit for his supplementary reading. A note was made in my class book as to this fact. Of course, the question and answer to this question were to be given by Friday in order to receive credit.

I had to repeat the instructions as to clippings on a "political fact" only. To be acceptable, this type of clipping called for a greater tie-up with the geographic matter than if the clipping had been on a commercial geography fact.

Another change was permitted later, although the class had been advised to take the condition into consideration. For

the last two weeks, the nations to be covered were not in the limelight so far as news was conceived. I made the concession that a supplementary text or report would be taken in lieu of a clipping and its reports. Also a clipping on the subsequent countries could be substituted for the clipping on the countries due in that particular contract week. There were other slight adjustments to be made.

Author's further comments:- No group teaching was done other than individual or group consultations, answer questions, a close observation and check on the pupil's work, aiding the pupils in analyzing their data. The examination consisting of ten questions was given during the last twenty minutes of the last session of the contract week. It was an objective type examination for the first eight questions. For those who had no supplementary text on which a question was to be asked, two short essay type questions were given to occupy them for the remaining minutes. If one supplementary text was read, the pupil would wait until I got to his text and then he would answer the question, and one essay type question.

The questions from the supplementary textbooks were objective type questions. There were two such questions for those electing to try for the contract IV. mark.

The class was told also that the examination must be passed or else they would be dropped back to the previous lower group. (For example if the pupil was striving for a 80

to 90% mark and flunked the examination, the best he could get was 70 to 80.) To determine the exact mark within each range of ten points, I told the class how I would determine the mark. I wished to make the pupil's final mark for the contract as objective as possible. They were informed that quality of the work handed in for contract II. and the results of the examination would determine their exact mark.

I don't recall any instances of those who were striving for a 90% to 100% mark, flunking the examination. But a few got between 65 & 70% on the examination. After a few weeks, and partially at the suggestion of the boys, I stated that any student who got only 65 or 70% after reading the textbook and writing out the detailed information, and then reading two more texts would have to get 80% in the examination to get 90% in his contract mark. However, if his examination mark was 75% or higher he was not lowered into the 80 to 90% group.

At the conclusion of the five contract periods, I was anxious to see the student reactions to this plan. Consequently, a set of questions was formulated and given to them. They were told that they could sign their names or not, but to give their honest, candid opinion in answering any and all of the questions. There were thirty answers. I am inserting some of these comments in the appendix. I am including under advantages and disadvantages some of their observations.

ADVANTAGES

Summary of pupils' reactions to the Contract System

a) The pupils favor it by approximately two to one.

b) The pupils claim that they learn the matter better by approximately two to one.

c) The Contract system calls for more outside study. To some, however, it meant less work.

d) There is no feeling of compulsion.

e) The students think that it is more interesting and instructive. (There is greater interest because of self activity).

f) It favors the slow and the rapid pupils.

g) It provides an opportunity of getting higher marks.

h) It provides an opportunity of securing more information.

Advantages as viewed by the Contract Plan advocates. (These are in addition to those listed by the pupils).

a) It is readily applicable to certain subjects. It can be adapted to drill subjects especially.

b) It is fair to the pupil, since it enables him to work at a pace commensurate with his ability, interests, and effort. It gives to the brighter boys and girls the opportunity to assimilate more information and learning. The responsibility for learning is up to the pupil.

c) It is applicable to definite topics and assignments, as distinguished from the permanent plan.

Disadvantages of the Contract Plan. 1) As viewed by the pupils.

a) Admission of greater opportunity for dishonest work.

b) For some pupils it did not remedy the difficulty of failure to do work. The shirkers still shirked.

c) There is a greater and closer checkup under the Recitation system.

d) There is too much idle time.

e) Many insisted that they did not learn much under the contract system.

f) Too much pupil activity, and not enough teacher assistance to explain difficult points.

g) Those who need the extra urge do not get it.

h) There is not the time for drilling, or emphasizing important points.

2) Disadvantages as viewed by teachers.

a) The teacher with his pedagogical training and experience can accomplish more in the Recitation hour than the pupil can with an hour's reading of reference matter which is often uninterestingly written, and more often from an unpsychological viewpoint.

b) It requires too much time in comparison with the Recitation method, or many other methods. If the Unit idea is incorporated, and made part of the contract method, the essentials only can be stressed and many worthy objectives must be eliminated.

c) Teachers, in general, are not desirous to use it because of indifference, self satisfaction, hostile attitude, lack of understanding, insufficiency and inactivity of teacher training courses.

d) A feeling that the method may be a fad.

e) Pupils will procrastinate under this system more so perhaps than under other systeme, and thus there is a trememdous amount of work accumulating just before the contract is due.

f) It involves too much time and effort in comparison with results. The teacher must also keep close records of the detailed achievement of individual pupils, no easy task, since they will be at widely separate stages.

g) Administrative. 1) The whole school should use it, or else confusion will result. 2) The difficulty of handling backward students and curriculum schedules may arise. 3) Friction between departments, parents, students etc. may arise when it is used only in certain departments. R.G.Walters*, says:

> "One of the greatest weaknesses of the contract plan is the fact, already pointed out, that a great difference of opinion exists among educators as to the proper technique to be used. Some school systems use modifications of the contract plan; others use combinations of the unit and contract plans. The uncertainty which exists regarding the essentials of the contract plan must of necessity limit the extent of its use."

G. W. Regan** says:

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* Walters R.G. "Modern Methods of Teaching Commercial Subjects", Monogram #16 p.17

** Reagan G.W. "Fundamentals of Teaching",Scott Foreman p.208

> "There is the problem of providing both for those who complete the course ahead of scheduled time and also for those who fail to complete it by the end of the term. It is often quite difficult for the teacher to keep track of the progress of each pupil."

Summary and Conclusion. I shall summarize and conclude this section on the contract plan with a quotation from H.O.Lathrop*:

"A. Aims of teaching by Contract Plan.
  1) To enable the pupil to work when he desired to do it.
  2) To permit the pupil to work at his own pace.
  3) To give extra work to the bright pupil.
  4) To emphasize a unit of work instead of one day's assignment of certain pages in the text book.
  5) To require mastery by all pupils of essentials as outlined in the "C" Level of the Contract.

B. Steps and Methods of using the Contract.
  1) Preliminary discussion and motivation. Informal discussion to find what the pupil knew about the unit and to interest him in further study of it. This corresponds to the "Exploration" step in the "Morrison Plan."
  2) Supervised Study. The time of the first day of days (depending upon the length of the Contract) was spent largely in working with the pupils showing them how to study and where to find the information required.
  3) Study hour. In addition to supervised study during the recitation hour the pupils were expected to give a minimum of a fifty-minute class hour to individual study and preparation. Such preparation could be made in the study hall, library, or class room. This need not be one period each day, but may be all done at one session of several hours if the pupil prefers it.
  4) Discussion of class problems. The first part of each class period was given over to discussion of those points which had given difficulty to a majority of the pupils.

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* Lathrop H.O.- "An Experiment with the Contract Method in High School Commercial Geography", Jour. of Geog. Vol.28, Jan. 1929 p.38

5) Handing in written work. Certain parts of the contract require written work. The pupils were informed when this was due and it was handed in at that time.
6) Recitation. The last day prior to the examination, most of the recitation period was taken up with class discussions and drillwork.

C. Values from the use of the Contract Method.
1) All pupils master the minimum essentials.
2) Chances for "bluffing" are lessened.
3) Responsibility for learning is put up to the pupil where it belongs. The task is literally up to him.
4) It secures more careful preparation.
5) It gives opportunity for the pupil to work according to his ability, time and interests. This is especially valuable for bright and dull pupils.
6) It enables the pupil to work when he wants to rather than when the teacher wants him to work.
7) Some of the pupils said they learned more than by other methods. This was particularly true of the brighter pupils.

D. Disadvantages in the use of the Contract Method.
1) Procrastination. Pupils are disposed to put off work from day to day until an amount of work impossible of mastery and assimilation accumulates near the end of the Contract period. This is not true of all but of some.
2) Lack of interest. The method deprives the teacher of the advantage of developing interest by full hour class discussions from day to day. Much of the text and other materials used for preparation is not written in an interesting style.
3) Lack of sufficient class discussion to emphasize important points and for drill.
4) Requires more time than some other methods.
5) Lack of class unity because all are not doing the same work or are not doing it at the same time.
6) Large amount of the teacher's time necessary to work out the contracts.

THE DALTON PLAN

The Dalton plan (first tried out in Dalton,Mass.) is seldom used. Where this method has been used it has been considerably altered. Very few schools report any confidence in its results.

The National Survey* reports that the three fundamental principles on which the Dalton plan is based are: (1) Freedom, (2) Cooperation or the interaction of group life; and (3) Economy of forces, or the budgeting of time, (but with no definite time schedule. It is based on the "house" which is composed of pupils of all grades.

"Jobs" are listed in a "Job Book", which consists of problems to be solved in the month's assignment. The classroom, is transformed into a subject matter laboratory. A peculiar characteristic of this plan calls for the abolition of the traditional daily schedule. Instead an Organization Time is scheduled, for a small part of the day while the pupil freely follows his own plan during most of the morning session.

The method is so absurd, so impractical that it is receiving little if any cooperation. It served as the basis for the formation of the Contract plan. It has little place in a commercial geography course.

* National Survey for Secondary Education "Individual Differences Marking and Promotion p.269

WINNETKA TECHNIQUE

This plan was originated in Winnetka, Illinois. According to the provisions of this plan the curriculum is reorganized into (1) knowledge and skill subjects, and (2) into group, socialized, self-expressive, or creative activities.

The work is the knowledge and skills subjects is completely individualized. Specific goals or objectives are established in each subject. Mastery in these objectives is supposed to be attained by a series of self-instructive exercises, and by prognostic tests. The pupils under this system are classified as self-reliant, or supervised, according to their ability to work on their own initiative.

This plan is an extreme variation of the Unit Elan. It is receiving some recognition but to my mind its life will be short. The plan ignores too many fundamental psychological principles.

LABORATORY PLAN

Characteristics of the Laboratory Plan.

This method calls for sufficient laboratory equipment, to use it. Since commercial geography is classified as a science, laboratory work can supplement the knowledge of geographic laws and principles. Care should be taken that the work should be graded and assigned as to pupils' ability. It should progress to the points or principles to be emphasized, and should be such as to develop thinking ability. Dorothy Noble* says:

> "Laboratory work may serve many purposes in association with the class discussions and lectures. Primarily, it should be always a piece of original study which will enable the student to ascertain fundamental facts, laws, relationships or principles at first hand. It may be used to supplement text or classroom material."

Some Laboratory suggestions involving scientific experiments are

(a) The magnetizing and floating of a needle upon water to illustrate the earth's magnetism and surface tension of water.

(b) Lighted candles held in conjunction with heated radiators to illustrate the principles of wind and air currents. Other experiments to illustrate climatic features are suggested.

(c) Scrapbook work is another type of Laboratory work

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* Noble, Dorothy "College Geography and the Laboratory", Jour. of Geog. Vol.28 Sept.1929 p.258

and is highly recommended.

(d) A notebook should be used to record these laboratory results. More will be said about notebooks later.

(e) In this laboratory I would have on exhibition: maps, globes, reference books, charts, and many visual aids to be mentioned later.

(f) The making of miniatures of things studied, while quite appropriate in the grammar or Junior high grades is generally considered too childish for high school pupils.

(g) Map making, to be really effective, involves advanced work in mathematics and drawing.

This method may be used to represent duties of United States Consuls in foreign countries. A current Consular Report may be assigned to the members of the class, and a report is to be brought to the class the next day.

Advantages. 1) It uses the same sources of information that authors use. Staples & York* says:

> "Why not have the pupil go back to the same source of information that the authors of text books use as their references?

(2) It is the pupil's own work, secured by self discovery, or concrete sensory experience.

(3) It creates interest in his work.

Laboratory work gives a scientific attitude or complex

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* Staples and York, "Teachers' Manual, Factors of Economic Geography", p.6

to the pupil. When the equipment is satisfactory, it enables the pupil to see the actual raw materials for a finished product. This causes a greater interest in the product, and a more lasting impression on the pupil's mind than mere book knowledge would. Therefore, it ties up well with pedagogical procedure.

Disadvantages. (1) Pupils sometimes experience difficulty in picking out valuable items, while they experience relative ease in the selection of trivial things, but skillful guidance by the teacher can give a certain facility in selecting the important from unimportant items. National Survey* states,

> "Finally the term'labor plan'also concentrates attention too exclusively upon the individualized or directed study phase of classroom work with the unit assignment."

(2) The task of getting a satisfactory and efficient room as a laboratory is almost insurmountable, for many reasons. Most schools, except in the larger cities, have not a classroom to spare to serve as a Laboratory for Commercial geography. The cost of the equipment such as specimens, maps, etc. runs into considerable expense, unless spread over a number of years.

(3) The task of gathering and judiciously selecting these materials, is considerable, and probably won't be undertaken unless the teacher is assured of permanent occupancy in that

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* National Survey of Secondary Education,"Individual Differences, Marking and Promotion" p.250

subject.

(4) Unless this work is properly graded to the pupils' ages they are apt to consider the work as a bit childish and beneath their dignity.

(5) Unless the teacher has his work very well planned, and unless he executes his work efficiently, there is likely to be a great loss and waste of time.

(6) If the assignment is on coal, the exhibits of cotton, glass, and other items are likely to engage his attention to the exclusion of coal.

(7) Large classes can not generally be effectively handled at one time in this laboratory.

(8) In such a group there are property destroyers, either through carelessness or neglect. This is expensive.

The amount of matter to be covered during the year or term may be such as will allow only few laboratory sessions.

PROBLEM PLAN

Some teachers confuse this with the Laboratory plan, and the Project plan. National Survey* reports this conclusion:

> "The Survey reveals the rather startling fact that the definition of a problem by respondents from schools using the problem method, varies in no significant way, if at

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* Ibid. p.322

> all, from the definition of a project as given by respondents from schools using the project method. It is an activity judged both by the pupil and the teacher to be worth while, carried on in a real life setting, initiated by the pupil, and of immediate practical value to him."

A problem is given to be solved either at home, or in class. The Laboratory method calls for a solution in an equipped Laboratory, just as work is done in a physics and a chemistry Laboratory. In the problem method, we have a task to be performed that can be worked at home, or in the classroom. Both call for research work on the part of the pupil, under the teacher's supervision.

Edith Brill* says:

> "The problem is a 'felt need' which may be purely intellectual or subjective and which may be worked out on purely intellectual lines. It may be artificial or speculative in character."

In general, there are four different kinds of problems, viz: Arithmetical Problems, Causal Problems, Problems of present-day public policy, and Problems of Indentification.

A great variety of arithmetical problems is possible such as "How long, based on statistical information, would a nation like England be able to feed its population, if present sources of food supply are cut off?"

Causal Problems are based as a search for causes, of industrial facts, as the N.E. question previously mentioned.

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* Brill, Edith "What Method Shall We Use in Teaching Geography", p.130

Problems of Present-day public policy - "What is a reasonable and proper attitude regarding Uncle Sam's intervention in Cuba?" Such a question calls for study of Cuba. Such a question calls for study of Cuba's location, products, occupation, education , ideals etc.

Problems of Identification.- The problem should be selected so that the identification of a given place, phenomenon, or other geographic information will involve mental work and demonstrate reasoning ability, as identifying the climate of a locality from facts given. An example taken from Staples and York's* Manual,

> "Why is manufacturing of light metal ware concentrated in N.E. which is so far removed from sources of coal and iron?"

He goes to texts, reference books, magazines and newspapers; then his material is organized; exhibits, if any, are finished, and answer based on facts, are given. The results are given orally or written, and are checked as to reasonably complete and definite conclusions. Enthusiasm and pupil interest are absolutely necessary for satisfactory results. This interest depends to a great extent on good problems. Good texts furnish plenty of topics for problem work, many of which are of varying degrees of difficulty, the more difficult problems being given later.

Cautions: The pupil should not lose too much time or mental

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* Staples and York, "Teachers' Manual, Factors of Economic Geography" p.6

wandering on the problem and statements. All answers to the problems should be definite. We should lead the pupil to develop himself to the point of asking himself leading questions, and to distinguish between important and non-important data, or points. Wm. Miller* says:

> "How can a knowledge of these facts be answered under the problem or project method of teaching geography? First of all, the problem must be chosen and organized so that the essential facts will be necessary in the solution of the problems. Second, at the conclusion of the study of each unit of instruction, tests must be given to determine whether or not the facts are known. Third, if after such tests, it appears that certain facts are not known, then quick remedial instruction must be given to develop the fact knowledge which is lacking."

Advantages. Some reasons advanced for the use of the problem method are:

a) that many geographic facts are uncertain, and unstable. Boundaries change; no set answers can be given for many controversial questions. These problems challenge the pupil's interest more effectively than memorized facts would.

b) They serve to combine apparently unconnected facts into an orderly solution of a question.

c) This work stimulates interest on the part of the pupil. Solving "the why" of geographic situations gives practice in thinking, and develops in him the habit of solving future problems. There is value to the pupil, in weighing, selecting and rejecting data. It enables and trains the pupils to perform

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* Miller Wm. "The Balance Between Fact and Judgment Work in Geography", Jour. of Geog. Vol.28 Oct.1929 p.301

problems in a definite manner, thus teaching him orderliness, which also aids the teacher in checking over papers.

Disadvantages. 1) It may be a time consumer if overworked and practiced too often. It allows far less time for drill or review work when these problems are worked out for class solutions and explanations.

2) Care must be taken to word the question so as to embrace a fairly extensive field of knowledge and not make the problem too simple, or too difficult. If the question is worded so that only one phase or aspect of a country is covered, when the homework should include an entire country, it means that the other important phases will be ignored. Hence under this circumstance care should be taken to make the topic such that a study of the entire country would be necessary to answer the question. In this regard we would state that the problem should be such that there should be an urge for information. The teacher should bear in mind the pedagogical maxim that knowledge or experience should be present before a problem can be solved. "Out of nothing, nothing will come".

3) The class may not be of a calibre bright enough to handle the problems.

4) Texts, reference books etc. may not be available or handy for a particular assignment. This means extra labor and considerable research on the part of a teacher to have these sources of information on reference books handy.

5) National Survey* reports this conslusion:

> "The term 'Problem Method' lacks comprehensiveness. It cannot apply to all types of work. ... Unit assignments in which the emphasis is placed upon appreciation or skills, for example, cannot be stated as problems."

PROJECT PLAN

This is frequently considered a part of the Problem plan, and is really a type of problem. The project plan, it is maintained, should have the following attributes: completeness, that is, it should concern itself with a finishable unit, and involve direct or concrete experience, with perhaps some muscular activity. It consists generally of several short problems and may run into several weeks' work. It calls for teacher preparation and attention to administrative affairs, such as preparation of materials and apparatus, capabilities of the children, time allottment, etc.

Some authorities claim that there are several types of projects: Dramatization Type, Investigation Type, Workmanship Type, Constructive Type and Community Service Type.

a) Dramatization - Plays with movement of children, manipulating Geographic materials, language plays, etc.

b) Investigation type - A tendency on the part of the pupil to do some research for its own sake.

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* National Survey of Secondary Education "Individual Differences, Marking and Promotion", p.353

c) Workmanship type - A tendency to imitate excellence. The origin of the project plan was in this type. Agriculture was its first experiment; then, manual training activities.

d) Constructive type - A tendency to build something. A country fair, a Swiss mountain scene.

e) Community Service projects - as local surveys.

R.G.Walters* in commenting on the distinction between the problem and project plans, writes:

> "Teachers occasionally speak of the use of projects as the 'project plan'. As a matter of fact there is no distinct project plan comparable to the unit plan, the contract plan, or the recitation plan of teaching, for projects are merely teaching devices which may be used equally well with any established plan;".... and again, further along he says "A project may be defined as a problem which requires purposeful activity on the part of the student in the natural setting for the project. It will be noticed that this definition calls for two special conditions - 'activity' on the part of the student and as 'natural setting' for the project. Although most educators believe that both conditions should be present yet some authorities consider 'student activity' as the only essential."

The National Survey arrives at a similar conclusion,**

> "Most of the respondents believed projects should be taken in their life setting, and that a typical project involves the use of concrete materials in a constructive way."

Edith Brill*** is not bothered by any distinction between the two:

"The project is generally considered to be a whole-hearted

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*Walters R.G. "Modern Methods of Teaching Commercial Subjects"p.25

** The National Survey of Secondary Education "Individual Differences, Marking and Promotion", p.355

*** Brill, Edith "What Method Shall We Use in Teaching Geography" p.130

> purposeful activity, carried to completion - a unit rather than a fragmentary exercise. It involves pupil planning, a considerable amount of sensory contact with objects or things, muscular activity, solution of a number of problems, size of undertaking, life situations, etc. ...."

Advantages. 1) It creates a considerable amount of interest.

2) It stresses self activity on the part of the pupil.

3) It may have exploratory or prevocational value.

Some of his muscular activities, in a natural setting, may create a liking for a certain activity, e.g. a field trip may fascinate him to the extent of desiring his vocation to be inspired by the activity seen, or perhaps engaged in. The origin of the project movement was in agricultural activity. Then it included manual training performances. In conclusion the investigators* reporting, clearly indicate:

> "Measurable values are to be derived by the pupil from project teaching, using the term as it is used in these reports. A study of the data secured, and of the pupil reactions and growth during the investigations, moreover, lead the experimenters to conclude that project teaching insures valuable outcomes, not assurable objectively, which may constitute a major contribution to practice."

Disadvantages. It doesn't build the maximum of knowledge in the shortest possible time.

This method calls for facilities which are often unavailable.

The study habit is not developed with this method. It is not calculated to develop an appreciation of geography as

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* Yearbook Part I - National Society for the Study of Education, "A Program for Teaching Science" Public School Pub.Co. 1932 p.87

as such, Since the project method employs muscular activity. Commercial geography, being a social science subject, is not a favorable experiment ground for this particular method. National Survey* reports:

> "Project method also lacks comprehensiveness. Unit Assignments in such field as agriculture, home economics, and the industrial arts may often be described as projects. But not all assignments even in these fields are projects."

TOPICAL PLAN

This plan is also similar to the Problem plan, and is sometimes called the composition plan. It is so-called because special topics are assigned for research work. The topic need not necessarily be found in the text, and may even be suggested by the pupils. They are assigned to individuals or to groups.

The pupils are to cover these topics without considerable teacher promptings. These are generally assigned for oral presentation, but may previously be written. It is advisable that the teacher save the best of these for use for future classes, if he has facilities available.

This work may be performed in conjunction with the English Department.

* National Survey of Secondary Education, "Individual Differences Marking and Promotion". p.353

Advantages and Disadvantages. It is quite similar to the problem method except that here we have topics for research, whereas in the problem method we have both research topics, and propositions or statements to be proved. Hence the advantages and disadvantages are quite the same.

RECITATION METHOD

This is the method that is still in vogue, and, although the other plans have many advantages, this plan with perhaps variation will continue in effect for some time. R.G.Walters* voices this opinion when he writes:

> "Despite the many advantages of the unit or contract plan, and of other plans of instruction based on individual differences such as the Ability Grouping, the Dalton and Winnetka Plans, the vast majority of schools still adhere to the honored recitation plan, and will probably do so for years. This being the case, commercial teachers who must use the recitation method, should recognize and use its best features.

Characteristics of the Recitation system:

1) The teacher recognizes no individual difference.

2) Knowledge, attitudes, and skills are the main outcomes.

3) The content of the subject matter is divided into arbitrary units for lesson assignment purposes.

4) The use of a lesson plan.

5) There are various effective kinds of lesson presentation.

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* Walters, R.G. "Teachers' Manual, Factors of Economic Geography" p.20

6) A program of tests and measurements.

7) The use of passing grades.

We shall proceed with a discussion of each of the above characteristics.

No individual differences recognized. The advocates of the plan believe in the principle that there should be equal opportunities to all. While they may concede that there are differences in mental or scholastic abilities, interests, needs, and objectives, they also point out that differences in industry, or effort exist. A combination of various factors can and frequently do, level individual possibilities. The teacher who employs psychological principles in teaching can arouse interest, aims, and effort perhaps far more effectively than can reference work. This tends to level ability possibilities. Achievements under the recitation method are not less than under the unit assignment methods. It presumes that all are equal in ability.

Advancement, they advocate, should be uniform. "Keeping the classes together" means that more can be accomplished in explanations to the entire group with less energy lost, and with greater success than could be possible under an individual system of instruction. In the assignment of home work, no distinction is made under the recitation system for these varying abilities.

The Outcomes of Teaching. The Recitation system stresses

the four main outcomes of knowledge, habits, ideals and power, or classified differently, knowledge, attitude and skills. The Unit Plan emphasizes attitude and skills whereas the contract system stresses to emphasize all the outcomes.

Knowledge. An emphasis is laid on a knowledge not only of facts, but also of principles, which serve as a basis for forming judgments in specific situations. T.J.Burnett* says:

> "What we want is a compromise between the vocational aim and the knowledge aim."

Thus a knowledge of commercial geography involves not only factual information that certain products are located in, e.g. New York State, but also informs us of the underlying reasons why these products are found here rather than elsewhere. It explains that not only are industries located in various sections of the United States, but also that principles underly the "why and wherefore" of this location.

The advocates of the recitation method maintain that before attitudes and skills may be realized, knowledge must be present. We must have a knowledge of the facts of weather and climate before we can have an attitude of understanding, and of appreciation of the effects of climate, or before there can be much skill or ability in determining the effects of climate.

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* Burnett T.J. "The Essentials of Teaching" Longmans Green & Co. 1916 - p.20

Attitudes. Skillful teaching, subject matter, and outside contacts, modify the pupil's reactions. Environment and training modify greatly the pupil's responses. Thus a forceful and interesting presentation of climatic facts and its relation to man and man's habits cannot but change his attitude of appreciation of the might of nature, and of its Creator. The pupil's observations of plant life, in reference to the effects of drought and rainfall, create in him the attitude of understanding its far reaching consequences.

Skills. Some subjects stress skills as an outcome far more than other subjects, including economic geography. Skill is a resultant of knowledge, habit and power. There are some skills possible in our subject such as skill in reasoning effects from causes, reasoning to an estimate of products from geographical factors of climate, topography etc. Skill in knowing sources of materials,or in assembling data, and its forceful presentation are desirable skill outcomes. Economic geography is not a skill subject such as would enable a high school graduate to secure employment; but, by furnishing a background for his work, it would more readily lead to advancement.

Division into Units for lesson assignment purpose. The Advocates of the Unit Plan claim that the assignments or topics covered under the recitation plan are arbitrary. This fault may apply occasionally, but most teachers have enough sense

and judgment not to arbitrarily "butcher" a section of the text. A good teacher strives as far as possible to have a complete topic, or assignment within a unit, or to have a convenient stopping place within the unit, or set of topics. G.W.Reagan says:*

> "Hence, we may say that the first condition to be met by a good assignment is that the tasks which the pupils are asked to do shall be tasks whose performance constitutes highly productive learning activity. In particular, the tasks assigned should be such that the doing of them will function effectively in the pupil's attainment of the objective set up by the teacher."

Some qualifications to be possessed, or principles to be followed by the teacher under the recitation system are:

a) He should know the logical units, and sources of supplementary material of the text.

b) The essential and nonessential topics must be predetermined and then stressed. The procedure, or order of topics to be presented, must also be worked out in advance.

c) The assignment should be understood by the class and explained if necessary, indicating sources of materials and the like. A thorough knowledge of subject matter would enable the teacher to select appropriate topics or problems. If the topic is not clear to the pupil it should be explained sufficiently, and, if material is to be searched for, it is advisable that the pupil be told where he can find it, and how the assignment

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* Reagan G.W. "Fundamentals of Teaching", Scott Foreman p.308

may be studied, if need be.

Lesson Plan. This is a procedure that applies to all teachers, and especially to new teachers, or to teachers of a new subject. Teachers should have in mind a plan, and then follow it out by putting it into writing. It is obvious that the teacher should take a leaf from the examples of life about him as the architect, tailor,etc. All have their plan, or ideal on paper etc. G.R.Walters* brings out this idea when he says:

> "The builder follows the plan of the architect, the machinist follows the blue print of the draftsman,.... but, in no occupation is a plan of action more necessary than in teaching. The beginning teacher, especially, should work out his plan in detail and reduce it to writing."

He should have in mind a plan that will last for the entire period which includes the review, the lesson, and the assignment. Plans for teaching should not all be of the same type. A plan should not be a standardized presentation, but should be altered as to subject, the teacher, the size of the class, the intelligence of pupils, the type of lesson presentation and the particular topic or assignment.

A good lesson plan, according to G.R.Walters** contains the following:

a) The topic or unit to be presented; it should be restated in simple language, if necessary.

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* Walters G.R. "Modern Methods of Teaching Commercial Subjects", p.21

** Ibid. p.21

b) The teacher's aim: The teacher must have an aim or objective for the lesson. The lesson may draw from the teacher a general objective or aim, and a specific objective. Several objectives may be secured from a single topic depending on the assignment, or topic. Thus the invention of the cotton gin may be treated from an historical aspect, an industrial aspect, a research aspect, or a trade aspect, etc.

c) Preparation. The class should be prepared for the new assignment by a short review or drill of previous lessons, relating to the new topic, to connect the students' past experiences with the present. Here the inductive method may be used.

d) The Outline of the Lesson: After the class has been prepared we can facilitate the work of presentation by having in mind certain topics, and sub-topics of the lesson. These may be put on the board, or the copy of the outline may be kept on the teacher's desk. G.W.Reagan* suggests:

> "That a paper be divided into halves by a straight line. The left column may be headed subject matter, (main responses desired from pupils) and the right column (method questions, directions, explanations etc. by the teacher)".

e) Presentation consists of the methods used in presenting the subject matter included in the outline mentioned above.

In presenting the matter on climate we may start by

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* Regan G. W. Reagan "Fundamentals of Teaching", Scott Foreman p.340

recalling what the pupils already know about climate; the teaching procedure follows; the lesson may be summarized, or presented by the teacher, which may include further information not contained in the text. Instead there may be a student presentation by individual assignment, or by a group contribution of a phase of the subject. Further details of the presentation will be mentioned below.

f) Assignment. The home work assignment is generally made at the end of the period, although there are many considerations which may dictate its presentment early in the class period. In a previous paragraph we explained a few of these principles which should be kept in mind in reference to assignments.

Presentation of the Lesson or Topic. Walters* summarizes these methods under three headings, deductive, inductive and drill lessons.

a) Deduction. This consists in finding the principle that applies for a particular problem; in stating the principle; applying it to the problem, and checking the result. This method is followed by most teachers as it is thought to be less analytical, and less work involved. The first difficulty, in selecting the principle that applies to a problem, is to understand the terms, and what is desired. A reason for a pupil's failure to work out a problem is his inability to understand what is given, or what he has to find or prove. The inability of many high school pu-

* Walters, R. G. "Modern Methods of Teaching Commercial Subj"p22

pils to analyze a statement into what is given, and what is to be found, is astonishing. The pupil should consider next the possible principles that may apply, rejecting that which does not apply; and when his choice is limited to one or two, he should apply the given problem to the principle, so as to determine the unknown parts. When this is secured, and the final results are obtained, we should check our answer.

In considering a project, or unit, for discussion in economic geography, it would be well to make certain that all terms are understood, and that we have a clear idea of the problem, or difficulty of the project, or assignment. Our next task is to figure the possible principles that apply, rejecting those that are extraneous to the present topic, until we arrive at the desired principle. This brings us to a consideration of the unknown facts. Our task is to dig these out from our textbook, libraries, conclusions from other facts given, or other sources of data. When we finally get the result, we must check to insure it accuracy. This is especially true when the problem is mathematical. Debates on questions such as "Resolved: The St. Lawrence river project should be approved", would be excellent for this work.

b) Induction. Substantially, this method is based on the idea of proceeding from the known to the unknown; from the student's past experience, personal or classroom, to the new experience. New fact learned serve as a basis for more knowledge.

This process may in turn be subdivided into five headings:

a) Preparation, which consists in a review of past experiences to prepare him for the new lesson.

b) Presentation of concrete, or particular cases.

c) Comparison of the essential features to secure a group of common qualities.

d) Generalization, or the formation of principles from this comparison of common qualities.

e) Application of the principle to new examples.

W. H. Hass says:*

> "The scientific method of attack is a simple search for the truth, using more or less definite steps in the process (1) There is an observation of fact or phenomena (2) An analysis into parts and relations noted, (3) Hypothesis or classifications into organized wholes, (4) Deduction in which conclusions are drawn and theories advanced, (5) Verifications or testing."

Therefore, we proceed from the concrete to the abstract in the formation of the principle. This method is generally conceded to be one of most effective methods of presentation. We can find many applications for it in economic geography.

For example, in a presentation of the influence of climate on agriculture we may prepare the class for the new matter by asking the students certain questions about their personal experiences, or classroom experiences, with the effects

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* Hass, W.H. "The Teaching of Geography as a Science", Jour. of Geog. Vol.28 Nov.1931 p.326

of climate. The teacher may ask these questions in such a way as to bring out, if possible, the situations, or illustrations, for comparative purposes later. In selecting our illustrations, or examples, we may use different parts of the torrid zone, temperate zone, and frigid zone.

An examination is made of the concrete examples, in order to discover points of similarity in regard to the essential features. These common qualities provide the classroom with enough information for a generalization; e.g., instances may be given that sufficient rainfall is necessary for all crops, that some plants require more rainfall than others. Or certain regions of the world produce certain crops and other regions different crops because of this rainfall factor of climate.

A generalization or statement of principle may be laid down. These serve as guides for specific illustrations.

After the principle of the effect of climate has been established, we can now take up different countries, or regions of the world, and show the application of the principle in this region.

Drill. This is another method of presentation for certain commercial or academic subjects, especially in the so-called skill subjects. G.W.Reagan* in speaking of the place

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* Reagan G.W., "Fundamentals of Teaching", Scott Foreman p.410

of practice and drill in education says:

> "It must be apparent to the reader, from what has been said thus far in the chapter, that no small part of the pupil's time in school should be devoted to practice and drill."

In the teaching of skill subjects by the drill method we again subdivide the matter into five subheadings.

a) Motivation of the subject by showing its importance for later life, or by showing some interesting phase of the matter.

b) Focalization, or the bringing of the student's mind into the elements entering into the information of the skill.

c) Attentive repetition. Practice does not make perfect unless the drill is thoughtful, purposeful, and with an object in view. G.A.Stevenson* says:

> "To the extent however, that the learner feels or realizes the need for the habits and skills, to that extent, he will put forth more vigorous activity and effort to accomplish the task."

d) Guarding against errors, repetition of faulty practice leads to incorrect habits.

e) Variation in practice eliminates fatigue and secures more attention.

In regard to economic geography this phase of the work, namely drill, is not quite so applicable, since ours is a social science subject. However, there are phases of this

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* Stevenson,G.A. "The Project Method of Teaching", The MacMillan Co. p.131

subject which lend themselves to this type of presentation. Monroe, DeVoss and Reagan comment on memory activities thus:*

> "The memorization of facts has been severely critized, but a considerable number of dates, names, events, and other facts may be remembered in order that the pupil may organize and orient what he learns."

Developing the Lesson. In the presentation of the lesson, the teacher has before him several different suggestions for its development. Most teachers use the question and answer, or the recitation method. This is of great value in review work, but must be supplemented in advanced work as it tests only the pupils' present or past knowledge, and not its new phases.

a) The Lecture method, used in college and frequently by young college graduates, who are teaching for the first time, is too prolongued, and calls for too little student activity. It, however, has advantages. A description by the teacher of his personal experiences, etc., or of matter outside the text may be used to advantage if interestingly given. Other advantages have been previously explained.

b) The Socialized Recitation. This may be divided into formal and informal recitations. It consists of the class being conducted without the teacher as the dictator. He is merely an advisor, or leader. This method has come into vogue in many places. Its purpose is to develop initiative, and co-operation in attaining an end, and a feeling of responsibility.

* Monroe, DeVoss and Reagan "Educational Psychology", p.162

It is another suggestion to provide for individual differences. Informal classes in the garb of extracurricular activities, seem to be able to hold students afternoons, whereas formal class sessions could not. Educators are wondering if extracurricular procedures may be brought into the classrooms. In reference to the socialized recitation Edith Brill pens the following:

> "Geography is ideally adapted to socialized work since it is a study in co-operation."*

In the formal type, the class may be organized along the ideas of a court, a debating society, or a parliamentary body. This type can be used to advantage in an economic geography class when there are topics for debate, or for discussion.

In the informal type the class has no formal organization. The teacher leads the class by giving suggestions as to procedure, or by directing a discussion so as to keep them in a problem attitude. This method is applicable to economic geography for a wide variety of topics. Such topics as manufacturing, processes, agriculture or any phase of it, etc., lumbering, fishing, etc. are especially adaptable to this type of socialized procedure.

Testing Program. In regard to this phase of the Recitation

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* Brill, Edith "What Method Shall We Use in Teaching Geography", p.128

Method, more will be said later in this discourse. Suffice to say, that we shall point out the main headings for the present. To quote R.G.Walters* again:

> "The recitation plan of instruction recognizes the need for a testing program, which may include the following types of test: Prognostic, instruction, achievement, and diagnostic test."

Other types of tests will be mentioned subsequently.

Prognostic tests are given to determine if pupil's can learn the subject, to learn his probable success. If the results indicate his inability to pass the subject, he frequently is not allowed to try it. Instructional tests are teaching device questions to point out errors, and to aid the pupil in ascertaining his errors. Achievement tests are used to determine the pupil's states of progress. Diagnostic tests are given for remedial instruction. Standardized and objective tests are modern needs.

Passing Grades. The subjectivity of marks on the part of the teacher is the great stumbling block for this system of marking. The same paper given to more than fifty teachers may call for a variation of fifty credits, depending on objectives of the teachers. The more objective the examination, the nearer the marking tends toward accuracy, especially when we measure certain kinds of responses. For commercial geography

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* Walters, G.R. "Modern Methods of Teaching Commercial Subjects" p.23

it is advisable to combine essay type and objective types of questions. The objective type may be used to test for factual knowledge, whereas the essay type may measure attitudes, reasoning, etc.

Though criticized, the system of passing grades is about as fair a method as there is to determine the student's abilities, mastery of the unit is by no means a satisfactory solution, as previously pointed out.

Advantages. The pupil's learning is strengthened through repetition in the form of recitation. Misconceptions can be corrected through the recitation plan, and doubtful points can be cleared up.

He may perceive relations not previously seen. Far more teaching preparation and actual teaching is likely under this method than under the other. There is more interest, less procrastination in the recitation system. Some of the better features of the unit assignment plan can be incorporated into this system.

Disadvantages. Recitations are often of a poor quality owing to inadequate preparation. Some hold that learning should take place in class, and recitations use class time that might be otherwise devoted to learning. This does not seem like a strong argument. The pupil recites what others already know; therefore his contribution is slight, adding to their uninterest.

MISCELLANEOUS METHODS

Heuristic and Eclectic Methods.

With a few words we shall summarize these two methods:

The Heuristic method is the "Question and answer" method. It is the old Socratic method of securing information, somewhat similar to the method of a three or four year old child. By skillful questioning the teacher may bring out vital facts, principles, and the like. It can be used effectively in commercial geography as in other subjects.

The Eclectic method is a combination of three methods Inductive, Deductive and Heuristic. This is a process followed by a large number of teachers. Effective questioning may be used with the Inductive method to arrive at general conclusions, and with the Deductive Method to arrive at solutions of specific problems. G.W.Reagan* says:

> "But, among all the teaching instruments at the disposal of the teacher, the question, when skillfully employed, is probably the most effective."

Summary. This universal method of teaching has received considerable criticism, possibly because it is so generally prevalent. Several of these characteristics are not deemed to be in harmony with ideas promulgated by the advocates of individualized assignments.

* Reagan G.W. "Fundamentals of Teaching", Scott Foreman p.250

However, a close scrutiny of the traits of the Recitation Plan would seem to indicate that the faults and criticisms are not so applicable to this system of teaching, as it is to the individual teachers, who do not employ in their teaching the attributes of this plan. Most teachers do reconize that there are individual differences, but they differ in the methods of meeting and providing for these differences. It is rather absurd for the opponents of this plan to claim that the teachers using the Recitation Plan divide the subject matter into arbitrary units, which are entirely unscientific. The remedy that they offer can hardly be judged as more scientific. On the contrary, it is rather confusing.

The Recitation Plan provides for knowledge outcomes, as well as attitude and skill outcomes, and by so doing it retains high scholastic standings. On the contrary, if we are to stress mastery, not in the narrow sense of adjusted attitudes, but the sense of complete learning, we must eliminate much of what is now required knowledge. This would tend to lower the standards of scholastic accomplishment.

The Recitation Plan demands the use of a lesson plan, and its application by means of various effective kinds of lesson presentation. This calls for greater teacher preparation and skill than does most of the suggestions offered by the advocates of Unit Assignment. Except for the first presentation of the subject matter under the various newer

suggested methods, scarcely any teacher preparation is necessary (outside of knowledge of the subject matter). In addition to scholastic achievements being lowered under the newer systems, teaching standards are apt to be considerably lowered.

The Recitation Plan has an effective balance in regard to testing. The Unit Plan, with its program of "Testing, teach, test, reteach and test to the point of mastery", calls for an unbearable amount of work in devising three or four tests on the same subject matter; an unnecessary waste of time in class in giving the examination; and a heavy load on the teacher in correcting these papers, compiling the marks, and statistically interpreting these tests. Under the contract system the pupil feels as if he is robbed of his time if testing occurs before the end of the unit. Under the Recitation plan the teacher may insert a test whenever he deems it appropriate.

Summary of the Chapter. Due to the wide variety of objectives, and the consequent confusion as to which objectives are the most important, and which deserve little or no consideration, there results considerable perplexity as to the most effective method of presenting this subject. The author thought it advisable to devote some consideration to the fundamental principles and practices behind all teaching. These important principles involve the nature of learning which

includes practice. The major and subsidiary laws of learning receive some attention.

The Lecture Method which is peculiar to colleges is used to a limited extent in high school. This method is not so pedagogically correct but it has its advantages for introducing topics, stereoscopic views and for other purposes.

The increasing attention given to individual differences has caused a considerable flurry among educators and many teachers. With the advent of new methods, or old methods in new clothing, we have a rush of teachers to embrace these devices. Experiments will be made on these methods after the fad has had its fling. I predict the rejection of these methods. The most important of these methods are: the Winnetka Technique and its weaker but more popular sister, the Morrison Unit Plan; the Dalton Plan and its weaker but also more popular Contract Plan. Milder forms are the Laboratory Plan, the Problem Plan, the Project Plan, the Topical Plan, and other variations of Individual Assignment plans.

In most of these plans there are certain fundamental methods for providing for individual differences. The individuality of the pupil is stressed. The teacher does less actual teaching, the teacher activity being confined mostly to assisting individuals or small groups, and occasionally introducing or summarizing the unit. Mastery (whatever it is) is substituted for passing grades. Less emphasis is placed on knowledge

and more on attitudes and skills. The Units selected are presumed to be less arbitrary.

The Recitation plan, if properly conducted, and applied, can efficiently provide for the knowledge, attitude and skill aims of a subject. The method calls for greater teacher preparation and skill. Individual teachers may bring their teaching up to par by taking courses, and by reading widely on their particular subjects.

CHAPTER VI.

DEVICES OR AIDS

Visual Aids. The following are the most popular, and most universally used of the visual aids:

Blackboard

Pictures--textbook illustrations, mounted pictures from manufacturing companies, or other sources

Screen pictures--stereoscope, lantern slides, still film or movies

Exhibits--Specimen collections, local materials, (such as rocks, minerals

Miscellaneous--observation trips, wall maps, atlases, graphs, charts, map making diagrams, home work clippings, and notebooks.

Class Activities. Class debates, Oral topics, Dramatization. Review question games.

Visual Aids. To be effective, teaching should perform these functions: a) Secure and hold the student's interest. b) Result in economy of time. (c) Increase efficiency in learning by the pupil. Visual education performs these three requisites..

It secures and holds the student's interest. We know that as soon as we commence teaching in the abstract, we soon lose the students' interest. We must be specific; we must be concrete, in order to secure and hold their interest. Their efforts will be in proportion to their interest in the subject. The visual aids greatly assist in attaining this

interest. It should be borne in mind that this interest is not the end of our teaching, but a means to an end. It should lead to more knowledge, to a better understanding, to increased skill, and to higher ideals. It results in economy of time.

Edna Collamore* says, in regard to the use of pictures:

> "When the use of concrete geography material in the classroom is discussed, several questions are immediately asked. 'What shall we get?' 'Where shall we get it?' 'How shall we use it?' Interesting as these questions are, there is another just as important. It is the question of objective, or ultimate purpose, the big Why of the subject. Why do we use concrete materials in the classroom. We use them because we believe, all of us, in what might be called, 'The Psychology of the Actual'."

A study of a picture can more effectively impress the pupil's mind than pages of words in description of a picture. Thus an illustration of a threshing machine, or of a blast furnace, produces a more lasting effect than does the description of these objects. "One picture is worth 10,000 words" is an ancient proverb. A proper application of visual aids is very effective in assisting retarded pupils. It increases efficiency in teaching.

Alfred Abrans** has this to write in regard to the message conveyed by a wise use of pictures.

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* Collamore Edna "The Why of Geography Exhibits", Jour. of Geog. Vol.27 Apr. 1928 p.152

** Abrams Alfred "Visual Instruction in Teaching Geography", Jour. of Geog. Vol.30 Apr. 1930 p.145

> "Size, form, position, color and motion, are all objective. Everything else we get from the pictures is subjective, that is, must be evolved in the mind. It is of the utmost importance that we recognize these truths for they are fundamental to the theory and practice of visual instruction. It is quite possible for pupils to look upon a group of pictures posted to gain a single clear mental image. What the teacher and the pupil get from a picture depends upon the previous experience and the thoughtful effort that are brought to bear upon its analysis and interpretation. Teaching by visual aids is much more a subjective process than it is commonly supposed to be. The teacher should know thoroughly the picture she is to use. Pictures are to be used chiefly for first presentation. As a student advances in his understanding of a subject, the use of pictures should grow less until finally their use should be confined largely to presenting new objective aspects of the subject."

In regard to a subjective view of pictures, Harlan Barrows* says:

> "In the case of a picture, this normally involves (1) observing the human item or items in the scene; what, in other words, there is of man, his work, or one or more products of his work. (2) Noting the natural setting of the human item, or items. (3) Considering what the picture shows, or suggests, about the relation of the former to the latter."

A visit to a blast furnace by pupils is far more efficient in its impression on the mind than it would be were they to read, or hear a description of the furnace. This is, no doubt, owing to the fact we read and hear less alike than we see alike. It increases teaching efficiency, if the pupils can be shown exhibits of the three main kinds of cotton, rather than a lengthy book description on the same material.

The Influence of Visual Aids on the Outcomes.

Knowledge. Texts tell us about objects under discussion,

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* Barrows Harlan "Some Critical Problems in Teaching Elementary Geography", Jour. of Geog.Vol.30 Dec.1931 p.128

whereas a visit to such a plant shows us the object itself which is first hand knowledge about the object. This knowledge is much more lasting. As a substitute for this first hand knowledge, our next best procedure is to study pictures of them.

Skill. To obtain skill in a subject the drill lesson should consider the methods of performances as the basis of the skill. This method may be given to the student by having him

(a) watch the instructor perform; (b) observe illustrations of the performance and (c) read or listen to a description of a performance. We must admit that the first two are far more effective.

Attitudes. The proper attitude of understanding and appreciation may also be obtained from an observation, or from pictures, but the effect is not so marked, as appreciations are not concrete, but abstract qualities.

1) Blackboard. The blackboard is not as much a source of assistance in this subject as in many other subjects. Yet it has its place, and can be effectively used in presenting various phases of the subject. For example, rough outline maps may be drawn by the teacher (this may call for a little teacher practice) and insertions as to cities, states, topography, etc. may be made. In teaching graph or chart work, naturally the teacher's blackboard examples will be of great value.

2) Text illustrations. Here is a valuable source of assistance for teachers. The illustrations frequently give us an insight into the dress, therefore, the customs of the people. Here we may find a good substitute for an observation trip. Some texts have excellent pictures of industrial processes, machinery, etc.

It is to be regretted that some authors do not provide the assistance to teachers that they should receive from the text. Many of the pictures and illustrations are purposeless, and not particularly helpful. As visual education is coming more and more into prominence in schools, it behooves authors to keep up with the trend by providing more adequate pictures. They should clear up doubts as to principles, and vitalize descriptions of objects and scenes of the text. Commercial and industrial scenes of the world are quite desirable in commercial geography.

R.G.Walters* says:

> "Next to the blackboard perhaps the most used, as well as the most useful visual aid, is the textbook illustration. In fact, a commercial textbook is no longer considered educationally correct unless it is well illustrated with pictures, diagrams or map charts."

Charles Preble** has some "don'ts";

> "Don't use so many pictures that there is not sufficient time to interpret. Don't miss the opportunity of, now and then, using good, uncaptioned pictures."

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* Walters R.G. "Modern Methods of Teaching Commercial Subjects" p.27

** Preble Charles "Visual Aids" Jour. of Geog. Vol.30 1931 p.123

Observation trips. The author has a chapter later on observation trips, its educational value, and the pedagogical hints to be observed on such a trip.

Projectors, stereoscopes, lantern slides, still films or movies.

These are excellent sources of assistance to a teacher of commercial geography. They provide a more vital and interesting force in bringing the students attention into focus on the lesson. It is possible to show motion pictures of industrial processes, which have been prepared especially for the classroom. The excellent type of projector is a combination opaque and glass slide lantern, which enables the teacher to either reproduce flat pictures or to use specially prepared glass slides.

Charles Preble* says:

> "Slides, and a lantern to show them, are considered by many superintendents as too expensive to warrant general use. However, they are so desirable that no effort should be spared to get this equipment wherever possible. A good one, completely equipped may be purchased for less than $65.00."

a) The sterescope. While it has advantages, some of its disadvantages are, that if one is provided for each pupil it means too much of a drain on finances and also on storing space. Otherwise, while some students are busy, others are idle, and are more likely to get into mischief unless otherwise occupied. It gives information only to those looking

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* Ibid. p.123

at the picture, while the teacher is explaining the particular picture.

b) Lantern slides. This is a very effective device and the slides are quite inexpensive. They can be stored in convenient units until a satisfactory set may be gathered. If single slides are broken the expense is not heavy. A satisfactory lantern may be secured now at a reasonable price. The lantern can be operated by one pupil, and the slides by another. It is suggested that a pupil make the explanations of views shown. This will be an important means of picture showing until still films, or movies can be a satisfactory substitute.

Miss Lillian A. Wilcox* gives a suggestion as to how a teacher may construct home made, inexpensive, yet efficient slide maps.

Alfred Abrans** says:

> "To return to the matter of pictures, I would point out that for class instruction the only form suitable, and at the same time practicable, is the screen picture."

c) Still films. Their use has grown considerably and we shall be in a position to see if it has come to stay.

Some of the advantages of still films or movies are:

(1) It can be used as a regular lantern with a special attachment. (2) The reel is not breakable like glass slides. (3) The pictures are filed in a predetermined sequence.

* Wilcox, Lillian A. "The Teacher made Slide Map and its Uses", Jour. of Geog. Vol.27 May 1928 p.198

** Abrans Alfred "Visual Instruction in Teaching Geography" p.147

(4) The titles are very clear and take the responsibility from the teacher. (5) They are nicely timed(40 minutes, etc.)

Manufacturers have not as yet produced many pictures for senior high schools, except possibly for commercial geography. However, they will make the film reasonably from a picture. In a few years their use will be extensive. It is "O.K." for grade work.

There are two types of still films: the hand operated type, and the motion picture type. The latter has been in use for fourteen years. Many schools are introducing the motion pictures. At first they seemed rather attractive. However, they have several disadvantages.

1) The equipment is too expensive.

2) If the mechanism is not working the machine is useless.

3) A licensed operator is necessary.

4) The film is highly inflammable, although some fool-proof machines and films are coming on the market.

5) It would permit only a few phases to be developed in the period; besides no industry is exhaustively studied by the pictures.

6) The teacher cannot readily revert to a discussion while the machine is in operation.

Exhibits, Specimens, Collections of mounted pictures. The author will mention later in this chapter, suggestions

as to exhibits, specimens, collections and pictures, and also suggestions as to arrangement in the room.

We mention these here as sources of visual aids. What has been mentioned previously about "seeing" objects is especially applicable here and these valuable sources of assistance amply repay the teacher for his efforts in collecting these exhibits and specimens.

Wall-Maps, Atlases, Pictures. Maps are, of course an absolute necessity for this subject. The different kinds of maps to be used will be mentioned in a later chapter. Physical-political maps in which broad physical features predominate, and political boundaries are represented in a subordinate way, should predominate in a commercial geography class, over the political maps.

The teacher should stress particularly the topographical features of a country; consequently adequate maps should be provided. Practice in determing the products of the region from a map study should be given.

Texas is about six times the size of Ohio, which is about a medium size state. Texas can be used as a means of comparison with other countries.

Ernest Witham* says, in regard to map study:

> "Map study is an important part of the study of geography but it should be taught comparatively.

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* Witham Ernest, "A Method of Teaching Large Geographic Areas" Jour. of Geog. Vol.27 May 1928 p.185

> Area must be carefully studied. Geography maps are misleading because hardly any two maps in any of the best textbooks are on the same scale, which the teachers can counteract by teaching the relative sizes of the most important regions."

Dr. J.F.Bogardus* says:

> "The exact application of this method must of necessity, depend upon the maturity and background of the class using it. The older and more advanced the class the more map construction and attention to detail should be required; while in the elementary classes it will be found necessary to eliminate much of this detailed work."

Flat Pictures. Magazines, newspapers, books, etc. are sources of flat pictures which may be purchased and mounted by the teachers, and should be properly labeled and filed. All pictures, therefore, should be on cardboard, on the back of which a typewritten description may be pasted with a list of points or questions to be stressed.

Lora Duxheimer** says:

> "Hence the term picture study should be taken quite literally - an effort to make the picture yield a value for effort expended upon it."

Lynn Halverson*** says:

> "One authority on the use of pictures in geography has said that an ideal picture of high geographic quality should show 'human activity in its natural setting' and, further along, he states 'To the average teacher with little opportunity for field trips, all of the available material must be utilized to the full to make realistic the human activities as they are related to the natural landscape in the region being studied."

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* Bogardus, Dr.J.F. "Problems in Teaching Regional Geography" Jour. of Geog. Vol.28 Dec.28 p.371

** Duxheimer Lora "Picture Study in Geography" Jour. of Geog. Vol.28 Nov.1929 p.337

*** Halverson, Lynn "Pictures in the Teaching of Geog." p.162

Graphs, Charts and Map Making. Walters* says:

> "Graphs and Charts are devices for making dry facts more interesting, and understandable".

Whether it is advisable to go into great detail on these aids is questionable. Much depends on whether this work has been set up as objectives. Ernest Schlee** mentions some of the advantages of this activity:

> "Some of the advantages of this chart-making activity are listed below:
> a) This work adds greatly to the interest of the pupil.
> b) It gives the student something to do other than his daily routine work.
> c) This project takes the student's mind away from the four walls of the classroom.
> d) Initiative is developed.
> e) Pupils are 'eye minded'."

Map making has little place in a course on economic geography, as a knowledge of advanced mathematics is required.

Homework Clippings Notebook. Valuable contributions to the class and to the teacher's knowledge result from this work. The pupils often have access to materials not available to the attention of the teachers or to the class. Its value is attested by William Anderson*** who says:

> "This is a valuable device as self activity and observational powers have full sway. Thorndyke says 'In the

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* Walters R.G. "Modern Methods of Teaching Commercial Subjects." p.28

** Schlee Ernest "Creating Interest in Economic Geography", Jour. of Business Education Vol.8 Oct.1932 p.21

*** Anderson Wm. "The Stimulative and Correlative Value of a Well Balanced Course in Commercial Geography", New Bedford Teachers' Ass'n. Bulletin.Vol.8 May 1932 p.26

> last analysis, what scholars do, not what the teacher does, educates them. Not what we give, but what they get, counts: Only through their self activity are they directly changed'. The habits gained in using these clipping books will be such as to keep them interested in the progress of the country, its problems, advancements, inventions, etc. The student is placed in the attitude of a discoverer; that he should be set to finding out things for himself."

Disadvantages of Visual Aids. Like all good things this method may be abused. (a) The teacher may use the wrong aid in a particular phase of the subject, or lose too much time upon this phase. (b) Too complicated or out of date pictures may be used. (c) The teacher should not neglect written or oral instruction for the visual aids. It should supplement these other methods and not supplant them.

EQUIPMENT OF A COMMERCIAL GEOGRAPHY CLASSROOM OF A LARGE HIGH SCHOOL VS. SMALL HIGH SCHOOL.

It is evident that the teacher of a large high school where he is permanently located can have a wider and larger assortment of equipment. We shall consider the larger city school first. Practically, all of these items mentioned here were seen at a recent visit to such a high school: Dorchester High School for Girls, and Dorchester High School for Boys, Dorchester, Mass.. This list is an objective for which to strive, even though it may take years.

Maps. There should be a large Relief Map hung on the front wall. An atlas is very important. The room may con-

tain a Spherical Map or Globe of the world.

A nest of maps should be in all classrooms. The Denoyer Geppert maps are very clear, although the Rand McNally maps are excellent maps. It is desirable to set these maps at an angle of 45°, so as to prevent the ring from injuring the maps. This nest of maps, generally about six, might contain:maps of the United States, North America, South America, Europe, Asia, and either a world map, or an outline map of the United States, without names.

Other wall maps that may be tacked, or otherwise put on the wall are automobile, railroad, forestry or agricultural maps. A map rail may also be used to present further maps. A map rail may also be used to present further maps. This rail may be secured from Rand McNally. Finch's Economic or Industrial Maps, which fold easily, and are easily stored, may be put on these rails for class room observation.

Reference Books. A large city school may be able to afford a cabinet of some kind in which to exhibit reference books, magazines and periodicals that pertain to the subject. At least there should be several copies on the teacher's desk.

Suggested Classroom Arrangement.

If there is a new school, and there is a headmaster who is keenly interested in commercial geography, it might be very desirable, and possible, to have an adjacent room as the exhibit room. In this room we may have tables with glass tops, to

exhibit flat pictures, as they are needed in an assignment.

I am including elsewhere (see the appendix) a description of what has been, and can be done with one or two walls of the room. In the top row of the wall cabinet we might store items of permanent value which we don't desire often, but don't want to throw away as past quiz papers, pamphlets, magazines, smaller pictures and posters.

In the next section below, we would put on the shelves eight ounce round bottles, aluminum tops, for articles that may be conveniently stored in bottles. In these bottles would be put some of the following:Gums, Graphite, Cotton, Cloth, Rubber, Pulp, Buttons, Cocoons, Oil, Copper and Minerals of various kinds, and whatever can conveniently be put in bottles. This is a desirable collection, even if it takes years to collect them.

In the next section, the show case, we might put some of the following articles: (if possible, we should endeavor to have raw materials, materials in process and finished goods) textiles, forest products, beverages, cereals, wheat, asbestos, fertilizer, building materials, chemicals, gums, resin dyes, mineral oil, graphite, animal products (cured to prevent decay), cacao bean, carborundum materials, Welsbach mantel, rubber, glass, silk, wool, cotton, minerals and woods. It would be preferable if some of these could be put in bottles.

In the lower section I would store transfer boxes, keep class books, such as "Clippings or Scrap" books, flat pictures,

poster, and such other current matter as I would need many times during the year.

Along the third wall, wherever I had room, I would hang up industrial, or personally collected exhibits, such as Washburn Crosby's "Exhibit on Wheat", hardwoods, common woods, skins, imitation leather, veneers, snakeskins, manila fibre, grindstones, silks, etc.. In the front of the room, for housing purposes if needed, we might use a three shelf cabinet, with glass doors, and drawers in the lower sections, for storing maps, etc.. I am inclined to think that the lower section of the wall cabinet would accommodate all our needs. If needed there might be a special cabinet for lantern slides.

It is advisable in the larger schools to have a lantern and lantern slides, together with screen, which may be suspended across the front of the room. This equipment requires a table for the machine. Moving pictures will be educationally popular, but their present state of development hardly warrants the expense. Pictures, charts, graphs, "Charts of Knowledge", and the like may be suspended or hung along the wall from time to time, as needed.

Smaller Schools. In small city or town high schools, where funds are limited, or where the teacher may not remain for long, the teacher should aim to secure the following visual aids: a) Maps. He should endeavor to have an atlas. A nest of maps is an absolute necessity. He should not be asked to teach the subject without one of these. Physical maps

are preferable. Tourist maps are generally free.

b) Cabinet. It is suggested that the classroom contain a cabinet, having three shelves, and glass doors, and below, drawers that can be used for storage purposes. On the shelves can be put glass bottles, into which many products can be put. Manufacturers, or visits to local establishments, would yield enough to fill in a short time the cabinet. In the lower part of the cabinet may be stored flat pictures, posters, clipping books, and other such material as may be stored until needed currently.

c) Along the side walls may be hung large pictures, charts, graphs, etc., which are pertinent to the unit under discussion. Also industrial exhibits, or personally collected exhibits, may be hung on the side wall. It should not be difficult to collect these.

Cereal stalks, and many of the items listed above, can, no doubt, be stored in a general school storeroom until needed. A small sized reference library can be built up from books secured from publishers. For the large, as well as the small, high school, if the teacher desire to see what is available for visual aids, a letter may be sent to Bureau of Publications, Columbia University, or to Miss M. J. Bolth, State Teachers College, Charleston, Illinois.

CLASS ACTIVITIES

Class Debates. There are many controversial statements in economic geography. As a means of securing both sides of this question it is an excellent idea to hold class debates. If properly conducted, these are helpful methods of presenting geographic facts and securing opinions.

The method of procedure is similar to that of other debates. Two or three speakers may be selected for each side and a time limit placed on the length of the debate. Unless the members of the class already have some topic or assignment to prepare, they should be expected to do some research work on the same question. After the debate the teacher should try to have time to throw the questions before the house. There are many excellent topics for debate, such as "resolved that New England will eventually lose its leading position as a manufacturing region", or "Buffalo will eventually be the largest city east of the Mississippi River."

Oral topics. Oral demonstration can be made a phase of the problem, or project method. It serves as a variation to the pupils to have some one instead of the teacher before the class. The questions can be placed before the class, for discussion, for a socialized recitation class.

Dramatization. Although dramatization is attempted somewhat by a few teachers, it is the author's opinion that

it has little place in commercial geography. To retain the class interest when this method is attempted, a certain amount of dramatic technique is required. A teacher has enough matter to cover without taking too much time out for such a presentation of a topic, which could(no doubt) be more effectively produced by other methods.

Review Question Game. This is a novelty, and stimulates interest especially in the lower grades. An arbitrary division, or one made by two captains, splits the class into two sides. Each pupil writes one, two or three questions on a piece of paper, based on the assignment, which he can answer. The leaders on receiving the questions, pick out the most difficult ones. The questions and answers are given in rotation on alternate sides. If the student on the side questioned fails, the maker of the question must answer it. If he can , his side receives credit, if not, no credit is scored.

This is a device that may be used for review purposes. The teacher is the judge and his decisions are final. If the questions are well selected and the review conducted expeditiously, it can have much value.

Summary. Visual Aids are of many kinds, and serve many specific purposes, the most important of which is to give concrete and specific illustrations of abstract truths. They aid us in retaining the pupil's interest. They should also lead to more knowledge, and to a better understanding of the subject of commercial geography.

Teaching by visual aids should result in a subjective interpretation as well as objective. That is,a good geographic picture requires some interpretation. Hence authors of textbooks can be of great aid to teachers by a judicious selection of meaning-ful illustrations, graphs, maps and the like.

The chief kinds of visual aids are: pictures, projectors, maps, exhibits and specimens. Each can contribute its share in the development of the different outcomes. However, care should be exercised in the use of these devices, as they may become an end, and not a means.

CHAPTER VII.

APPROACHES AND OUTLINE OF YEAR'S WORK IN COMMERCIAL GEOGRAPHY

Weekly Outline of the Year's Work. This outline, mentioned below, is based on a particular text, R.W.Whitbeck's "Industrial Geography". It is the outline I am attempting to follow subject to slight variations. I am offering this outline only as indicative or suggestive as to what may be done. It may be noticed that I devote three to four weeks on the geographic factors. I believe a knowledge of geographic factors is indispensable. A high school which has courses in physical geography need not spend the time with this introductory matter.

September	
1st. week	Approaches. The teacher may create interest by defining the values of commercial geography and by use of other expedients to be mentioned later. Begin an explanation of topographical features and human responses.
2nd. week	Continue the explanation of topographical features, that is; land forms, including plains, hills, plateaus, mountains and their effect on resources; water forms, and responses; soils and minerals, and their effects, Commence the study of climate.

September	
3rd. & 4th week	Finish study of climate and its responses. Use the approach of Whitbeck, with its Robinson Crusoe story. Modern commerce and industry should be treated next.
October	
1st week	Assign special topics.
2nd "	Continue special topics.
3rd "	Finish special topics. Cereals and products
4th "	vegetables, fruits, sugar and tobacco
5th "	the fibre yielding plants
November	
1st week	review
2nd "	quarterly examination (three hours in each subject in our school)
3rd "	the animal industries
4th "	timber and wood products, and the fisheries of North America
December	
1st week	water power, waterways and irrigation
2nd "	finish waterways and irrigation. Special topics
3rd "	special topics

January

1st week	roads and railroads
2nd "	manufacturers and their regional distribution
3rd "	Alaska and other territories of United States
4th "	midyear examinations

SECOND TERM

February

1st week	Review physiographic factors and climate. Start Canada.
2nd "	Finish Canada, Mexico and Carribbean Lands
3rd "	South America
4th "	British Isles

March

1st week	France, Belgium and Netherlands
2nd "	Germany
3rd "	Switzerland, Italy and Iberian Peninsula, Scandinavian Countries
4th "	Examination

April

1st week	-----
2nd "	Easter Holidays
3rd "	Finland, Baltic States & Poland S.E. Europe and Russia
4th "	Japan

May

1st week	China and Indo China
2nd "	Dutch East Indies, India, S.E.Asia, Australia, New Zealand, Africa
3rd "	chief producing regions and world trade
4th "	special topics

June

1st week	special topics and review
2nd "	" " " "
3rd "	final examination

APPROACHES

By Approach to commercial geography we mean certain topics or methods that are calculated to arouse the students' interest in the subject and to sustain it when the main body of the course is reached.

It behooves the teacher to give this matter special attention as first impressions are generally the most vivid and lasting. This subject offers a wide variety of interesting material. The instructor should strive to arouse this interest, and create a desire for further information.

At the outset the teacher of Economic geography has a tremendous task before him. The field is so extensive that there is difficulty, as previously mentioned, in selecting the content and the method of the course, let alone a selection

of possibilities. Thomas Riddington*, explaining his initial lessons in this subject, writes:

> "Yet there is a surprising agreement among such authorities that the initial lessons should explain geographical cause and human response as the underlying principle of the course. .... The outcome of this lesson for the pupil should be a realization of the profound effect of this geographical environment upon man's industrial activities and well being, how he is hindered and helped by his environment, and how he may modify his environment in the task of making a living. .... The plan consists of the development of the topic by the teacher, text assignments, collateral reading and original work on the part of the pupil which is called laboratory work. The time for this inital unit consists of six periods of forty minutes each of effective teaching as follows:
> First Period: Introduction of the subject by the teacher.
> Second Period: Discussion of introductory material. A portion of the text is read in class and instruction is given in how to study and outline the text.
> Third Period: Discussion, and explanation of a portion of the text. Particular attention is given to the study of maps and diagrams in the text which illustrate the subject matter.
> Fourth Period: Completion of the introductory matter in the text.
> Fifth Period: Report on collateral reading which correlates with text and discussion.
> Sixth Period: Laboratory. An original assignment is discussed with an application of the material presented in the first five periods.

Thomas T. Riddington** summarizes Lesson I as follows:

"The Geographical Environment

1) Economic Geography (Com'l.Geography) definition
    a) Basis of industry - wants - name them.
    b) The earth as the home of man - limitation of earth's supply of wants.
    c) Limited adaptability of man to the earth's limitations.
    d) Our geography environment

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* Riddington, Thomas T. "An Initial Economic Geography Lesson" Jour. of Business Education Vii Dec. 1931 p.17

** Ibid p.18

2) Cause and effect - adjustments to environment.
  A. Some Conditions
    a) Fisherman of Labrador
    b) Farmer of Saskatchewan
    c) Scottish Highlander vs. Lowlanders
    d) Strap hanger of Philadelphia
    e) Influence upon history of wars
    f) Influence upon custom and thought
    g) Influence upon wages
  B. Similar geographic conditions tend to produce similar human responses.
    People tend to adjust themselves to environment.
    Differences in environment tend to localize industry and stimulate trade.

The approach used in a particular text has much bearing on the interest to be aroused. In general we agree with Mr.Anderson* when he states:

> "Such a book might be described as one which has introductory sections dealing with the three factors which explain and underlie commerce; the natural or geographic, the human or political, and the economic. These introductory chapters should be followed by extensive treatment of physical features, with some reference to geology, communication, transportation, localization and concentration of industry, government aid and conservation of natural resources of United States."

A study of several text books will be made and the approaches used will be mentioned. Other suggestions will be offered. A brief mimeograph outline may be used to advantage. It is advisable to start immediately with a notebook which is described elsewhere.

Industrial Geography R.H.Whitbeck** This text starts with a story, the well known tale of Robinson Crusoe. This

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* Anderson Wm.L. "The Stimulative and Correlative Value of a Well Balanced Course in Commercial Geography" p.5

** Whitbeck R.H. "Industrial Geography",Amer.Book Co.1924 pp.594

story is used to lead to the thought that there has evolved a division of labor in the world. The author proceeds to discuss reasons for commerce and growth of production. He then proceeds to break the ground by a discussion of the climate of the United States, its topography, soil, etc.

"Commerce and Industry", J.R.Smith*. This author begins with our changing environment.

1) The size of many kinds of environments.
   Man's small share of the Universe.
   Few parts of the earth are good - great water mass, parts of the earth too dry, cold, wet, etc.
   Recent discoveries - cause greater consumption.
   Historical facts, Social order, or chaos
   world environment and world citizenship

2) Influence of Climate
   climate and civilization
   effect of tropic abundance
   intermittent climate
   influence of unfavorable climate
   people depending on one resource

3) Influence of Natural Protection, and beasts of burden.

4) Necessity of Commerce
   importance of transportation
   commerce without the railroad
   civilization depends on commerce

5) World Commerce and World market.
   World trade prevents world famine changes in work.
   Trade in last century

6) World Commerce and Agriculture
   Farming in commercial epoch; money crops vs supply crops

7) Understanding of lands

8) The United States a world in itself.

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* Smith J.R. "Commerce and Industry" Henry Holt 1927 730 pp

"Economic Geography for Secondary Schools", Colby-Foster*. This text starts with a discussion of the utilization of the natural environment, treating

1) Where people live; densely, moderately, sparsely peopled areas.

2) Our occupation and our natural environment with a general discussion of main occupations.

3) Trade and Transporation connect regions; how commodities are made available by trade and transportation. Chapter II. Commercial regions of the world ranked according to volume and chief regions trading with the U.S.. The regions where simplest forms of life take place are treated first, leading to the United States.

"Factors of Economic Geography", Staples and York** has three general approaches, social-economical, material, regional.

1) Economic factors
   Historical
   Social
   Physical (Climate
            (topography
   Communication
   Transportation
   Localization of Industry
   Growth of Large Cities
   Use of power resources
   Government and commerce
   Business Organization

2) Material factors
   Cereals, Beverages, Sugar, Plant Production, Forest, Vegetables, Animals, Cattle, non-metallic

3) Regional
   United States
   Rest of world

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* Colby-Foster "Economic Geography for Secondary Schools", Ginn and Co. 1931 595 pp

** Staples and York "Factors of Economic Geography" South-Western Publishing Co. 1928 584 pp

"Commercial Geography", Edward Robinson*.

Part I. Growth and Factors of Commerce
- a) Brief History of commerce
- b) The Mediterranean Age of Commerce
- c) How commerce depends on Land (soil) and Sea.
- d) How commerce depends on climate.
- e) How commerce depends on man.
- f) How commerce depends on Economic Forces.
- g) The development of Transportation.
- h) The Principal raw materials of commerce.

(This involves nearly one hundred pages of text matter.)

These will suffice to show the variety of approaches used in different text books. Many show great divergence, and some of these show considerable merit. However, we see that these have the same element in common; the approach is made through the fundamental geographic, and economic factors.

There are other methods of arousing interest, e.g. by asking unusal questions in Geography, such as "Believe it or not" questions. Among these are such questions as: "Can you reach Canada by going south from Detroit?" "Which is further west, Cleveland or Jacksonville,Florida?" Which is further west, New York City, or Arica, a port on the western coast of South America?" The idea is to create further interest and desire in map making, and in place geography.

Another method of approach is to satisfy the question of the students who desire to know what the subject is, and what they can get out of it. Hence we define the various

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* Robinson Edward "Commercial Geography", McNally and Co. 1920 466 pp.

kinds of geography, and what the objectives of economic geography may be.

Another approach which is highly productive of results and creative of interest, is to inform the class of the fact that there is a short cut to the knowledge of the products and activities of various countries. Proceed to mention the economic or environmental factors, and the human responses arising therefrom. Ridington* says:

> "Another interesting device is to introduce the Wharton Island problem to them early in the course, the possible solution of which, may not be given until later in the course. This problem is a splendid test on the acquisition of geographic principles. (Redding secures this example from 'Wharton Island', from J.R.Smith, Wharton Island Assignment Univ. of Penna.)
>
> "An island is suddenly discovered in the Atlantic Ocean, 500 miles east of Philadelphia. It is part of the U.S. politically and commercially. The climate is the same as ours - not doo dry or too wet, not too hot or too cold.
> The area and resources are as follows:
> Total area is about as large as the state of New Jersey and divided thus:
> a) One-fourth, or 1,000,00 acres of plateau land of over 1000 feet elevation. This is covered with forests of pine and spruce. There is plenty of waterpower for manufacturing. It is underlaid by rich seams of soft coal.
> b) One-eighth, 5000,000 acres of foothills adjoining the plateau, covered with forests of mixed hardwoods. There is plenty of limestone and pottery clay. There are deposits of slate, shale and iron ore.
> c) The remaining 5/8 (2,500,000 acres) of undulating and level grassy plan. This is good for wheat, corn and vegetables of all kinds.
> d) Around the island there are 500,000 acres of bays which are good for fish and oysters, coupled with good fishing banks off the coast.

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* Ridington, Thos. "An Initial Economic Geography Lesson", Jour. of Business Education Vol.7 Dec.1931 p.18

"1,000 people are put there to stay. There is to be no immigration for 10 years. Each person can homestead 1,000 acres of land, not over 5/8 to be plains. Each has $5,000.00 in deposit in Philadelphia; but each must live on the island, although trade is possible with the mainland".

An important approach to economic geography that is not to be ignored, the approach that lasts through the grammar school days, is very helpful. This serves as a background for the course in commercial geography. There has been a decided tendency for the past few years to change the manner of approach in the elementary grades, especially in the latter years of the grammar school. Teachers are now endeavoring to lighten the memory load, by showing the relation of the fundamental factors to products and activities of parts of the world. They concentrate, now, more on the "why" and "wherefore" of these products and activities.

For example, in teaching the location of agricultural lands, the teacher may point out a "why" of this location, namely nearness to sections of great world population. This change from the memorization of traditional encyclopedic enumeration of facts to an understanding of some reasons, though elementary and simple, facilitate the teaching of economic geography in high school, allowing more time for detailed studies of products. However, a result of this teaching is less knowledge, on the part of the pupil, of detailed information. Since memory work is slighted, their knowledge of place geography has been neglected. This most recent trend was in the

mind of Selma Abrams* when she pens the following:

> "Moreover, a child who knows facts in the text may not be able to use these facts in the solution of everyday problems, and in the enjoyment and understanding of life situations......It is better that children should know fewer facts, pass poorer examinations on the facts of a text; it is better instead that they should know how to find and observe facts, analyze and compare them, make inferences, draw conclusions, test and apply these conclusions; for we are teachers of children, not teachers of facts. The text is only a tool for educating children, but it is our strongest tool".

This seems to be in line with the policy of cutting down requirements and minimum essentials to the level of the poorer pupil. A few illustrations should suffice to enable the pupil to know how to find and observe facts, analyze and compare them, etc..

Summary. The preceding outline for the year's work is merely suggestive or indicative. The work of the first week, or two, is rather important, however. It is during this period that the teacher must build up interest in the subject. Hence some attention should be paid to the approach. I have suggested several approaches, both from the textbooks, and otherwise. The reader may notice that most of these approaches include the discussions of the environmental factors. If the pupil has not had a course in Physical geography, it would be advisable for the teacher to spend three weeks on this type of activity.

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* Abrams, Selma "The Intermediate Grade Geography Text, and the Laboratory Method of Using it", Jour. of Geog. p.121

CHAPTER VIII.

ADAPTABILITY OF DIFFERENT TEACHING METHODS TO COMMERCIAL GEOGRAPHY UNITS

A) Climate. Climate may be taught by most of the methods explained in previous pages. Some of these methods need modification for an effective translation into everyday use.

The purpose of teaching climate is to show the constant relation between climate and the responses to this factor. The pupils should know that this fundamental factor has been a powerful influence in the life of man thoughout the ages. They should understand some of the principal underlying factors of climate, and causes of climate, in different regions of the world, and their profound effects on plants, animals and man. They should receive an understanding of how it affects man's character, habits, and activities. It is to be pointed out that climate generally affects, and in turn is affected by the other environmental factors. Our everyday relationship with climate is in the form of weather. About this, Van Cleef* says:

> "He (the student) learns that weather forecasting is not a haphazard affair, and that such errors as occasionally occur are to be expected in the present state of our knowledge of air movements. He sees the

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* Van Cleef, Eugene "Geography in Business" Jour. of Bus.Education, Vol.7 Mar 1932 p.216

> folly of much weather lore and the logic of some ...... In the direct application of weather knowledge to business procedure, the student is made acquainted with the effective use of the weather forecast in newspaper advertising, and in window displays."

Some of the elements of climate that may come up for discussion are the following:

Atmosphere:- composition, barometic pressure, convection, heat, evaporation, humidity, saturation, dewpoint, clouds,fog.

Kinds of precipitation.

Winds and storms. Cause of movement of air - high & low pressure, names of winds, air drainage, land and sea breezes, monsoons.

a) Wind belts of the world. Heat equator and its movements, Doldrums, Trade Winds, Anti-trades, Horse Latitudes, Prevailing Westerlies

b) Storms and weather changes. Frequency of changes of Highs and Lows, Storm tracks across the United States, influence of movements on a locality, Thunder, Lightning, tornadoes

Factors influencing climate. Climate versus weather, elements making climate (temperature, winds and moisture)

a) Effect of topography, mountains, water forms, winds, ocean currents upon climate. Effect of climate on man's activity, character, etc.,

Low Latitude--wet, wet and dry, grassland, desert
Middle Latitude--sub-tropical, western edge of continents, continental type of climate, Eastern margin of continents
High Latitude--sub-arctic, arctic regions, effect of each.

Visher classifies these climatic situations into twenty-five

laws*.

"Twenty-five Meteorological Laws
Laws concerning heating and cooling of the earth:
Distribution of heat in point of time
Distribution of heat over the earth
Delay of heating and cooling
Range in temperatures
Laws concerning winds:
Kinds of winds
Direction of winds
Wind Velocity
Steadiness of winds
Laws concerning moisture:
Sources of moisture
Rate of evaporation
Distribution of moisture
Relative humidity
Condensation
Precipitation
Miscellaneous Laws:
Variations in air pressure
Cyclonic storms
Sensible temperature, and thunderstorms.

Methods of presentation

Contract Plan. This plan may be used quite readily with climate as the subject matter. An assignment of some unit, or a series of assignments within the unit, may be made, and varying quantities of work may be assigned. These essentials should be sufficient to enable the student to ascertain the response to climatic factors.

If, we intend to stress individual differences in the teaching of climate, by means of the contract plan it may be done by some of the teaching devices suggested previously, either by group teaching with the contracts worked out, or by the individual pupils, or by individual supervision,

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* Visher, Samuel S. "Climatic Laws", John Wiley & Sons 1924 p.7

or by a combination of methods.

In the makeup of the guide sheet the teacher should include the essentials of a knowledge of climate which are necessary to arrive at an understanding of the human response. This would be the minimum requirement of the lowest group. This would call for a careful analysis by the teacher of the laws of climate deemed most essential for an understanding of the relation between climate, and animal and plant activities. Some problems may be assigned for outside solution to insure that knowledge may be secured. This may, and perhaps should, call for written assignments based on the reading of supplementary reports. A limited time in which the matter on climate may be submitted, must be set. The marks for the unit on climate would be based on the quantity of work finished as well as on its quality.

Unit Plan. The entire unit of climate or some subdivisions as indicated above, depending on the amount of time and interest available, may be mastered. Climate may be taught by the teaching and learning cycle, with its Mastery Formula. That is, the climatic material may be pretested, taught, tested, and retaught to the point of mastery. We should keep in mind the stages of teaching: exploration, presentation, assimilation, organization and recitation. By the time these five ideas are stressed in connection with climate, the matter should be well learned. But serious objections remain.

Has the teacher enough time? and how extensive is the pupil's knowledge when he has finished?

The criterion as to his mastery of climate is to test him to see if he has changed his attitude of understanding and appreciation of climate. He cannot pass to the next unit until he has mastered this unit.

Recitation Plan. This method is so frequently used that it requires little explanation as to its application to climate. It is, however, the misuse of the method, or perhaps, the lack of use of the real recitation plan which has allowed criticism to develop.

Climate is readily adapted to this plan of teaching. The Main Outcomes (including knowledge) of teaching may be secured and the subject can be divided into convenient units for lesson assignment. The Lesson Plan may be effectively used in teaching climate and weather. We have pointed out the aims that the teacher should have in mind. The preparation of the class may be performed by recalling the pupil's past knowledge and experiences with climate.

The outline suggested above may readily be followed in whole or in part, depending on the time available to individual teachers. However, certain fundamentals of climate are necessary before the larger phases can be understood.

Presentation. The material on climate can be effectively presented by the Inductive, Deductive, Eclectic, Heuristic methods.

Assignments can be readily made according to the entire unit, or parts of the units. A testing and grading plan may be employed.

Lecture Method. In general this should not be used except for introductory or summary work.

Problem or Project Method. The teacher may select different phases of climate for special research by the pupils as "Wind Belts of the earth", "Relation between Tropics and man's civilization", etc. Different problems may be given to each of the pupils who may contribute their knowledge to the class, by oral or written discussions. The climatic problems should be such as to call for reasoning and a knowledge of facts. A few phases of climate may be used for muscular activity involved in the project plan, but most of the suggestions offered for this type of work are a bit childish unless there is a well equipped laboratory.

The teacher may facilitate the assignment by mentioning a bibliography, or references for the studant's assistance. The teacher or the pupils may consult the local weather man for assistance.

Topical Method. There is a wealth of magazine articles, and other reference materials available for this topic. Alertness on the part of the teacher, or the class, may result in an extensive compilation of this material. This climatic material may be kept on file for future classes. The contract, unit

or recitation plans may be used here.

Laboratory Work. This plan may very appropriately be employed, provided equipment is available to show the convection of heat, air currents, evaporation and condension. It is a variation of the individual assignment plans. The pupils under this method, work more or less individually, but may be kept relatively on a par with the other pupils by the use of the recitation plan.

Visual Aids. These may be used by means of climatic maps to show the climate of world regions. The globe may be used to advantage in a description of day and night, and causes of seasons.

Class Activities. Class discussions, as a result of oral topics or debates, are in order. Any of the topics mentioned previously may be used, or special topics may be devised to insure the subject matter of climate being covered.

B) Methods of Teaching the Geographic Factors. The objective in teaching the fundamental geographic factors is to enable the student to see more clearly that there is a strong connection between the fundamental factors of location, landforms, water forms, soil and mineral resources and climate, as causes on the one hand, and the human responses, of material needs (food, clothing, shelter, tools and transportation),

occupations (hunting, fishing, herding, farming, mining, lumbering, manufacturing trade, commerce and transporation) as effects on the other hand. These factors also affect man's energy and his higher needs, such as government, education, art, science, etc..

The student should be taught these underlying principles; and by several applications, or examples, shown the connection, and intimate relations between these factors, and the products of the world, and man's activities. Walter Hanson* states the general belief of geography teachers on this point:

> "It is very much worthwhile for the student to learn where the great centers of population are, and why they are there, but such ideas will have a new meaning, and will be less easily forgotten if stated in the form of a generalized principle by the student himself."

Some of the elements of the fundamental factors, that might come up for discussion and explanation are: (according to Huntington and Cushing**) (see next page)

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* Hanson, Walter "Suggestions for Writing Geographic Principles", Vol.27 Jour. of Geog. Sept. 1928 p.221

** Huntington and Cushing, "Principals of Human Geography" John Wiley, Third Edition, 1924 p.12

The Fundamental Geographic or Environment Factors.

Geographic Factors

Location

Size or area
Place
Distance

Topography
Land forms

1) Plains
2) Hills
3) Plateaus
4) Mountains
5) Peninsulas
6) Islands
7) Marshes

Water forms

Lakes & Seas
Oceans
Rivers

Resources, soil & minerals

Soil quality
Iron
Coal, coke & water power
Metallic
Non-Metallic

Climate

Atmosphere
Light
Atmospheric pressure
Temperature
Wind
Moisture
Humidity
Fog
Rain
Cloudiness
Sum

Plants

Man

Animals

Human Responses

Human Needs
Food
Clothing
Shelter
Tools
Means of Transportation

Occupations
Hunting
Fishing
Herding
Farming
Lumbering
Mining
Manufacturing
Commerce
Transportation

Efficiency due to
Race
Health & Energy

Higher Needs
Recreation
Government
Education
Science
Religion
Art

It may be observed that there is an active relationship between even the main factors of environment. Topography,

for example, seriously affects climate. Water forms influence and temper climate. Climate, it may be observed, also affects these other factors. Renner* has this classification:

> "Viewed from this angle, the twelve environmental elements may be seen to consist of approximately 12 major types of climates (with their associated fauna and flora)
> 2 major types of soil
> 4 " " " land forms
> 5 " " " water features
> 3 " " " ground water occurences
> 5 " " " mineral occurences
> 3 " " " coast zones
> 4 " " " geographic location, the ocean.

Method of Presentation,

Contract Plan. While the contract system may be used here, it is questionable whether it is the best plan. This unit, however, can permit a recognition of individual differences and allow varying degrees of acquisition of outcomes, including the knowledge outcome. It would be possible to assign the passing grade for a satisfactory knowledge of the bare essentials. Greater credit may be given for greater quantities and better qualities of work handed in, for which guide sheets may be given.

The unit plan can also be applied to the teaching of the fundamental factors. However, it seems to me as if the unit is rather long if we include all the geographic factors under

* Renner G.T. "The Geography Curriculum", Jour. of Geog. Vol.29 Nov.1930 #8 pp 345-353

one unit. However, the subject of climate may be treated separately. The pupil's previous knowledge of the physiographic factors may be tested. The matter may be tested, taught, retested and retaught to the point of mastery. This may be done by means of the Teaching Cycle. This is one phase of geography which is so fundamental that the mastery formula could be productive of effective results in its application to different regions of the world.

Recitation plan. This plan through the assistance of definitions of terms, examples, etc. may be used to advantage. The outcomes of education can be secured by a presentation through this method. The first four factors, since climate is treated separately, may be handled through the usual application of the lesson plan with its statement of the topic, aims, preparation, outline, presentation. If the teacher has an inspiring personality; and a thorough knowledge of his subject, as well as of the recitation plan, he should succeed in effectively teaching his pupils. The presentation may be by the usual inductive, deductive and Heuristic methods, or drill.

Single Unit Plans. The problem and project methods may be used here as well as the topical plan. The geographic factors, however, are such that group explanation, and instruction are highly desirable.

This section of the subject except for climate is not

quite so adaptable to the laboratory method. Visual aids in the form of maps, may be used to good advantage in showing the relation between these factors and the responses. It is suggested that these maps be of the geographic type.

Miscellaneous Topics. In regard to cereals, forests, mining, agriculture, iron and steel, manufacturing and study of a single country, the methods of presenting the study as previously mentioned may be applied. Some call for special mention of a method of assistance.

In regard to cereals we should pick out our aims and objectives for this section. It seems advisable to know the regions of production, (and United States region in particular), soil and climatic requirements, kinds of wheat or other cereal, world consumption, methods of harvesting, and other machinery.

Since wheat is one of the most important of the cereals, special emphasis may be placed on this article. Since however wheat and especially the other cereals are not so fundamental, it is hardly necessary for the unit plan which involves mastery, to be employed. Special methods such as the problem, project, laboratory or topical methods may be used to advantage.

In treating forests and mining it is well to pick out the objectives of these aspects of commercial geography. For both of these visual aids are excellent methods of arousing interest and retaining knowledge.

Agriculture may be stressed especially in country regions; simple principles of plant and animal breeding may be taught. Country schools generally have the room and facilities of a small farm to make the tie-up more effective. This makes an excellent background for the use of the project plan involving, as it does, muscular activity in its natural setting.

In the case of iron and steel a visit to an iron foundry, or to steel mills is especially instructive, interesting, and entertaining. The topic is extremely dry if we rely on the printed page solely. There are certain advantages and disadvantages in such field trips. More will be said about this form of instruction later.

Manufacturing lends itself especially to problems and topics. Interesting displays can be secured from many manufacturers. These exhibits vivify the manufacturing process, especially if the raw materials and semi-finished products can be secured. We have to examine here the desired objectives, and then settle the subject matter to be covered.

In regard to other countries of the world it is well to stress the fundamental factors of location, land and water forms, natural resources, and climate. From these geographic factors man's activities and products may be more easily understood. Some special topics may have to be treated, which are not peculiar to the United States. We should note the unusual features of the country, its people and their characteristics.

We should stress the connection between the geographic background and the mode of life, ideals, etc. of these peoples. A brief discussion of the future of the country may be considered.

Summary. Whether the unit that is taught is "climate", "fundamental factors", "cereals", etc. most of the suggested methods already mentioned may be applied. The question is, however, which is the most effective method of teaching the unit?

The author has shown the possibility of applying these methods to the different units of geography because a judicious use of one or another of the methods serves to vary the teaching of the many parts of commercial geography and thus tend to create interest. The subjects of climate, and environmental factors are so fundamental that the Mastery Formula is quite apropos, provided that complete learning is implied. It is hardly advisable to use this plan for such topics as lumbering, waterpower, and other topics not of a fundamental nature.

CHAPTER IX

OBSERVATION OR FIELD TRIPS

These are trips made by the class under the direction or supervision of the teacher, into factories, farms, mines, or other scenes of commercial or industrial activity. Its purpose is to give to the pupils a first hand knowledge of the particular activity being observed. It is used in order to develop the pupil's interest in the industry, by means of the particular concern under observation. The products of that industry, its raw materials, processes, organization, labor problems, and also of the particular concern may be studied as a result of this visit.

These trips are sometimes classified as the journey method of teaching. They are classified more or less as visual aids. Trips to plants, where the pupil gets an intimate acquaintance with business men and the industry, give them a greater insight into the world into which they are soon to be thrown.

Preparations for a Field Trip.

General Preparation on the part of the teacher.

a) Secure the consent of the concern being visited.

b) Go to the Chamber of Commerce for suggestions as to plants which welcome, permit, or tolerate observation trips through them. Many of the larger factories train guides to conduct these tours. Most of these are quite willing to

answer questions.

c) If possible it would be well for the teacher to previously make a personal trip through the factory to acquaint himself with objectives for the trip. He should secure information, and note points of interest which he may expect the class to observe. This can facilitate the visit and save time, as pupils like to loiter, or unnecessarily delay with interesting features of the processes, etc.. This condition is aggravated if the teacher has not thoroughly acquainted himself with objectives for the trip.

In regard to this point Staples and York* say:

> "The effects of these trips are often defeated because of lack of definite purpose in the trip. Even where the intentions of the pupil are of the best, he has obtained little value from the trip because his attention is scattered over a great many new things which he sees. In order to get the best out of the trip, the teacher should first visit the particular business place and determine the points to be observed; these give the trip a special thing to be looked for and reported on."

Dorothy Noble** adds:

> "The real value to be derived depends on the amount of preparation and the summary work which will arouse the student's powers of observation and reasoning, for the whole problem of field excursions is fraught with the dangers of uncorrelated observations, the lack of focus and perspective."

4) A teacher who is interested in building up exhibits, specimen's etc. may make some interesting and valuable additions

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* Staples and York, "Teachers' Manual - Factors of Economic Geography" p.8

** Noble Dorothy "College Geography and the Laboratory", Jour. of Geog. Vol.28 Sept. 1929 pp 260

to his collection. Some plants charge a slight fee for this service.

5) By making these business contacts the teachers keep up-to-date in commercial geography information; and these contacts may be a means of placing graduates.

Pupil preparation.

1) Assemble the class in the classroom to explain the purpose of the trip.

2) If the field trips are to last more than a day it may be advisable to keep the student in suspense by keeping these comtemplated visits a secret until time to start for the plant.

3) While on the trip keep the pupils together and maintain discipline. If they are unorganized, if they act like rowdies, and destroy property, or meddle with equipment, (as much equipment is dangerous) it would sour the concern against the pupils, the school, and such visits. They should follow the guide and the instructor closely.

4) Students should be required to keep a notebook, and jot down information as they make the trip. A suggestion is given that a certain form be printed and issued to the students for guidance in discerning important points in reference to the particular concern, and about the industry in general. This outline may be the basis for a written report after the visit. R.G.Walters* says: (Footnote next page)

> "It should be impressed on the students that the excursion is not a form of recreation. If the most is to be obtained from the excursion, students should

be told in advance what is to be observed, and in some cases they should be required to take notes, and afterwards to give reports on their trip."

Other suggestions, which include several mentioned by Stanley Pugh,** are:

1) A camera may be used.
2) Sketches or drawings may be made of important processes.
3) Souvenirs, circulars presented to the students may be included in the report.

Outline as a Guide Sheet for the Observation Trip.

1) Company. a) Name, location, short history, officers and number of employees.

2) The physical property. a) The buildings, Facilities for receiving, storing, production and shipping. b) Land,- Facilities for storage and future growth.

3) Raw Materials Used. a) Kinds, sources, quantities used, primary raw material, or finished material ready for assembly.

4) Source of power used and amount.

5) Products, or service rendered, kind, distinguishing mark, daily and yearly output, markets, trends.

6) Processes. A simple outline of the operations involved, inspections made, departments and indirect labor activities.

7) Labor.

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* Walters R.G. "Modern Methods of Teaching Commercial Subjects", p.29

** Pugh Stanley "Field Trips for Economic Geography Classes", Balance Sheet Vol.14 Dec.1932 p.170

Skill or training required, replacement by machine, number and kind of people employed, method of renumeration, welfare facilities.

8) Industry in general. a) Why is the plant in this city? Where is the industry located? b) Locating factors, materials, labor supply, power, markets, transportation , climate (if a controlling factor) which have aided in localizing and building this concern and the industry. c) The effect of this plant on the community.

Crawford and Grenstead* offer several suggestions in relation to these field trips.

"1) Be sure that the points visited are new to the students who go, so that they offer genuine opportunities for education.
2) Choose the excursions carefully to correlate with the class study.
3) Provide plenty of guides so that the pupils can go through in a small group and have processes explained to them, and so that each student can hear what the guide says.
4) Prepare a card for each student containing printed cautions as: 2) keep hands off; b) let the guide go first; c) let the teacher go last; d) thank the guide when you leave, etc.
5) Have parents sign a permission card authorizing the school to take his child on a trip.
6) Take precaution to reduce expenses.
7) Motivate the excursion by previous study, assignments, class discussions."

Advantages of the Journey or Observation Method.

1) It is of pedagogical value as it affords a concrete method of presenting facts.

2) It advertises the school if properly conducted.

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* Crawford and Grenstead "The Use of the Excursion in Teaching Commercial Geography" Jour. of Geog.Vol.29Oct.1930 p.7

Crawford and Grenstead* summarize some of the advantages of excursions:

> "Advantages of Excursions. We have seen that the statistical data favor the excursion method. The following may explain why this is the case, and may go to show why more use might well be made of this plan of teaching:
> 1) The excursions are of more interest to the students than are the more bookish types of classroom procedure.
> 2) They give education a decidedly practical direction since they involve a study of the realities of life.
> 3) Well chosen trips afford valuable vocational or educational guidance.
> 4) The excursions provide a useful fund of experience and mental imagery for the interpretations of the abstract materials of books".

Disadvantages. Inconvenience of getting the group to attend: a) during school hours because of scholastic conflicts, b) Outside of school hours because of conflicts with pupils who work, or have outside activities. What is observed on such a trip is only a small phase of the entire matter covered. Unruly pupils, generally in a minority, who meddle with equipment, employees,etc.

Summary. Field Trips, or the Journey method of teaching has a place in commercial geography teaching. How important its place is may be rather questionable. It gives the pupil's first hand knowledge of the particular activity being observed, and from these observations he can draw conclusions as to the industry itself.

It is advisable that the teacher spend some time in planning and preparing for this activity. Much time can be

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* Ibid. p.9

lost, and confusion, disorder, and even physical damage may result unless the teacher takes come previous precautions. It is advisable that some sort of a checkup on his attention to the details of the trip be secured by means of notebooks, a quiz, or by some such device.

CHAPTER X

TESTING AND MEASURING IN COMMERCIAL GEOGRAPHY

Brief History of Testing. There was very little done in the line of testing of commercial geography, as well as commercial or academic subjects, outside of the old essay type of testing, until nearly 1900. However, great dissatisfaction was felt at the old style type of examination as it was believed that the examinations were too subjective, too unreliable; that they did not test what they were intended to measure; that they were not easy to give; that the method of grading was subjective, and varied too much with different teachers. This objection could be especially levied against commercial geography.

Binet, of Paris, in 1905 constructed the first intelligence test. The intelligence tests were first applied to mental deficients, then feeble minded, juvenile delinquents, adult delinquents, dependent children,then to test general mentality of children, and now even to bright and superior children. Prognostic tests were started about 1914, but as yet little has been done in reference to commercial geography tests, and, due to the nature of the subject, it may not be for some time.

In regard to achievement tests, steps have been taken to construct tests called objective tests which are supposed

to eliminate the faults of the subjective essay type. These have had a considerable impetus for the last ten years or so, but the work of selecting objective and standard tests is really in its infancy.

Value of Tests. To test teaching results, we should eliminate so far as possible the objections to the subjective tests. In other words, the results should be evaluated in terms of the objectives of the course. An illustration of the evils of subjective grading is found, in the reported example of a geometry paper corrected by 118 teachers with marks ranging from 28% to 92%. Similar results would probably be secured with commercial geography type of tests.

I believe a test should do the following:

1) Inform the teacher of the relative ability of each pupil, so that she knows who di least well, and best, and so on, in the abilities tested.

2) Inform the pupil of his relative ability compared to previous achievement and to other members of the class.

3) Diagnose the pupil's absolute ability, his strong points, and weak points in achievement on which to construct a program of remedial construction.

4) Set standards of pupil achievement.

5) Establish standards for admission to high school, college, or for promotion.

6) Spur the pupils and teachers to do better work.

7) Ascertain the affectiveness of teachers' instruction.

8) Afford information in reference to educational and vocational guidance.

9) Compare class and school results with other class and school results.

What Tests Cannot Do (their limitations as I see them.)

1) Tests are valid only for what they can really measure.

2) What the pupil really learns in class may be theory. What the actual practice is may be different. Hence tests on learning results may not give actual practice results.

3) Tests can measure only a small part of the learning of the school year. The questions used should be based on as representative a portion as possible of the aims of the subject tested.

4) No standard of result can be set up which will apply to all schools or individuals due to individual differences in problems. E.G.Blackstone* lists the following common faults:

> "a) Lack of reliability. - Many test makers have never determined whether or not students will make approximately the same scores on second trials of a test. Reliability may not be assumed, it must be proved.
>
> b) Validity. - Due to the difficulty of securing adequate criteria, test makers have often failed to determine whether or not a test measures what it is supposed to measure. ... It may be a reading test instead.

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* Blackstone E.G. "Essential Steps in Constructing Commercial Tests", Jour. of Business Education Vol.7 Apr 1932 p.10

c) Form of Question. - True- false questions have met with much criticism and might well be avoided. Completion questions are very tricky due to the fact that it is hard to get students to use the words intended.

d) Objectivity. - Questions have been asked whose answers can be justified only in the minds of the examiners.

e) Failure to measure traits of appreciation and interest. Such things are difficult to measure, but may not therefore be eliminated from consideration, if they are significant factors in success as they probably are."

Principles to Bear in Mind in Test Construction.

1) Validity. It should measure what it is intended to measure. What is measured or tested should represent the aims of the course. The validity of the test may be checked by means of criteria or standards of achievement, whether within or outside the school.

2) Reliability. In testing the knowledge, ideal, habit and power aims, we should ask ourselves how the aims are measured. One test may be checked against a part of the test, or against other tests, or a battery of tests. By means of formulas it may also be determined how long the tests should be to obtain maximum reliability.

3) Ease of administration. How about the time limit, manuals, or directions for guiding of teachers? Are the questions easily understandable by the pupils. No "trick" questions should be constructed. This is apt to occur when we fail to heed the objectives of the course.

4) Subjective or Objective grading. Questions should

be so worded that there should be little opportunity for the personal biased opinion of a teacher. An objective type of test is appropriate if we desire to obtain the pupil's factual knowledge. If we wish to test his attitudes, or ideals, this may be accomplished to better advantage with an essay type of question.

5) Ease of interpreting the examination. a) There maybe a set of answers which the teacher may use in checking his own paper. b) There may be a form accompanying the examination if it is a standard test by which the teacher may draw conclusions as to the results and their significance by a comparison with the results of other schools. Forms are often prepared whereby the results can be compared with other schools or classes.

6) Diagnostic value: A good standardized test must provide a means of tabulating or diagnosing test results so that remedial instructions may be given.

The Different Kinds of Tests:

A. An achievement test is one which tests the accomphishment of pupils and teachers. They are given periodically to determine stages of development and achievement of the pupils. Walters* suggests three requirements for this type of testing:

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* Walters R.G. "Modern Methods of Teaching Commercial Subjects" Monogram #16, SouthWestern Publishing Co.1932 p.31

> "Achievement tests should do three things: (1) Discover what the student knows; (2) how well he understands what he knows and (3) how well he can apply what he knows. In other words, the achievement tests should consist of fact, thought, and application questions. In many schools the achievement test is the only type of test used."

There are various kinds of achievement tests. These include: a) An objective textbook test which is one generally found at the end of a chapter, or based on the conclusion, of a unit of work. b) Comprehensive tests cover larger units of the subject matter.

An important type of achievement tests is "Objective test." These are prepared by the teacher, or are in the form of published tests. The essential feature is that the grading is independent of the teacher's judgment. As yet there are few standardized tests in commercial geography. Objective tests are divided into many types of tests.

1) Recall tests: a) Simple recall tests are so-called because they depend on memory, -- e.g. -- "Five essential environmental factors are: ...., ..., ... and .... ."
b) Completion. - The pupil must complete the sentence, in which there is generally only one blank to be filled in.
c) Recognition or selection tests. - The pupil must recognize, and underscore, or select one of several given statements.

i) Multiple response.-- Several words are given from which the pupil selects the one which applies. "New England's importance as a manufacturing region is due to nearness to

raw material. - An abundance of capital, - a large market with a poor agricultural hinterland."

ii) True-false tests. - The pupil must mark the statement true or false. "Grand Rapids, Michigan is noted for furniture making."

iii) Matching test questions. - Fill in the parenthesis with the number of the statement in the next column which most closely matches that item.

iiii) Best answer test question. - An incomplete statement is given which may be correctly completed by any one of several possible answers, only one of which is correct.

An Objective test may be a standardized objective test if it also fulfills these requirements: a) If the exact difficulty is learned by means of correlation and reliability formulas; b) If the exact difficulty of each step is learned; c) If the scores made in it by pupils of different grades are known so as to establish norms from these results.

Madaline Goodale*comments on standard tests as follows:

> "Standard Tests are of great help in efficient teaching, but due to their expense and for other reasons, are sometimes used too seldom. Thus, the up-to-date teacher may supplement standard tests and the old traditional type test with classroom tests of his own construction. Teachers will find that they can become very skilled in constructing tests of the new order. i.e. Selection tests, True-False tests, Completion Tests, Judgment Tests, Associative Tests. Not only may these new tests be used to test knowledge gained by pupils, but may be used as teaching devices."

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* Goodale Madaline T. "New Types of Tests", Jour. of Geog. Vol.27 Feb.1928 p.66

Harlan Barrows* believes that testing should emphasize relationships:

> "Objective tests in geography,no less than subjective tests should emphasize relationships of man to the earth and not mere facts about people on the one hand, or places on the other."

Other tests that might be used and classified under the foregoing tests are: Graded test -- questions are graded as to difficulty; Speed test - tests given to measure speed.

B. A prognostic test. This is one to predetermine the pupils' power to learn the subject. This is especially useful for mathematics and many other subjects. However, prognostic examinations are also given to determine the pupils' knowledge about a new unit, e.g. climate,to be taken up. Walters* tends toward the former view point:

> "The prognostic test is intended to determine the student's probable success or failure in a particular subject before he commences the study of that subject."

H.H.Smith:

> "The purpose of diagnosis in geography, as in medicine, is to discover the actual state of affairs. The purpose of remedial work in teaching, as in medicine,is to correct the situation discovered through diagnosis, ... although it is inconceivable that intelligent remedial measures can be taken in teaching, or in medicine without some adequate diagnosis. Diagnosis must be specific, not general .....; it must be comprehensive."

C. A Diagnostic Test. It's purpose is to test weaknesses in the learning process of pupils, and of teacher's

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* Walters R.G. "Modern Method of Teaching Commercial Subjects" p.23

** Smith H.Harold "Diagnostic Testing and Remedial Teaching", Jour. of Business Education Vol.8 Sept.1932 p.12

weaknesses in instructions. This type of test seeks to discover whether there is a weakness and why. There is a scarcity of this type of testing for commercial geography. Instructional, or achievement diagnostic tests may be made.

D. Intelligence tests are to test the pupil's power to learn. Most teachers are acquainted with these tests. The pupil's mental age is divided by his chronological age. Since mental age is synonymous, to a great extent, with knowledge, the results of these tests must be wisely used. Most of the above tests are objective tests.

E. Instructional Tests. These are somewhat similar to diagnostic tests. Walters* describes this newer test procedure:

> "Instructional tests are relatively new. - They show the pupil what he has failed to understand in reading his text, and thus furnish a basis for further study by the student and for supplementary instruction by the teacher. It should be noted that instructional tests, being merely teaching devices, are not used in grading the pupil."

F. Subjective tests. The main kind is the essay type which is criticised because of the subjective marking. It has its advantages because it is a better instrument for measuring knowledge and reasoning ability, given an involved hypothesis, and for measuring attitudes and ideals.

Criticisms of Testing. Most of the objections in reference to examinations are concerned with the objective versus the subjective essay type of examination.

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* Walters R.G. "Modern Method of Teaching Commercial Subjects" p.23

The supporters of the objective type claim:

1) It is more objective and tends to eliminate personal opinion;

2) They cover more ground in an examination in a given period of time;

3) The answers must be short and definite;

4) Ease of grading;

5) Teacher energy can be spent on the formation, rather than grading of, tests;

6) They are more valid and reliable than essay type.

The reasons against them are:

1) The objective tests do not afford an opportunity for the solution of practical every-day problems. It does not afford an opportunity to express the logic involved in arriving at conclusions; to meet new situations.

2) The emphasis is on facts and memory;

3) More emphasis on the minor details;

4) It does not measure attitudes, or skills as readily as the subjective type of examination.

What can be done to Improve Examinations?

1) To measure knowledge, ask thought questions.

2) Have the objectives of the course included in examinations.

3) Avoid trick or unimportant detail questions.

4) Make examinations difficult enough to avoid 100%

and long enough to keep all pupils busy during entire period.

5) Give directions as to procedure to be followed in the examinations, that is; a) order of questions; b) desired arrangment; c) completeness of answer expected.

6) It is advisable to have test papers mimeographed and explain the meaning of questions.

7) The teacher may have the answers ready before correcting the papers, especially mathematical papers.

8) A school policy should be determined in regard to some papers, as poor English, etc.

9) In grading questions two plans may be followed:

a) Go through all papers marking one question e.g. the third question; continue until finished. (This is rather impractical under the Regents system of cumulative marking.)

b) Read papers; assort into five groups; reread; grade.

10) Scores versus grades. Mark in scores first; these, then, may be translated into percentages.

Proper steps to be taken in preparing, administration and grading examinations:

1) Analyze and list all the knowledge, habit, ideal and power aims which it is desired to test in a particular section;

2) Check the ones it is desired to test in the examination;

3) Check items to be measured with the aims;

4) Prepare the test;

5) Prepare the key;

6) Prepare the grading schedule;

7) Prepare list of directions for administering the examinations for student's and other teacher's assistance;

8) Give the test;

9) Collect and classify the results and interpret;

10) Plan remedial instruction;

11) Improve the test for the next year.

There are no standardized tests available for satisfactorily measuring geographic achievement. The change to testing on relationship was recent. No tests on measuring relationships are available as it is easier to ask for isolated facts.

Summary. Testing and measuring are phases of teaching that have drawn considerable interest within recent years. Statistical procedures have been advanced during the last decade or two to show how unreliable our former methods of marking may be. During this time there has been a refinement in the methods of preparing, administering and interpreting examinations.

Much attention has been given to the formation and results of intelligence tests. In fact, one might say that too much reliance has been put on intelligence tests in many schools. Administrators are too prone to rate pupils on these tests without considering other factors.

Testing serves many important purposes for the pupils, the teacher and the administrator, but they have several limitations which must be considered in the construction of the tests. The purpose of the test should be considered in forming the various kinds of tests. Achievement tests measure accomplishments. Prognostic tests are used to secure an idea of the pupil's background. Standard tests provide an opportunity for comparison of the class results with other schools. Certain tests can be given to ascertain the effectiveness of the teaching procedures. Care, however, must be taken that these tests meet requirements as to validity and reliability.

CHAPTER XI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary. Geography has many branches, or derivatives. One of them, commercial, or economic geography is a study of man, as a trader, and of the earth's surface as affording a place in which to trade. Economic geography has many objectives, all of which can be classified under the seven cardinal objectives of education. Health, Worthy Home Membership, Leisure Time, Vocational Training, Fundamental Processes, and Ethical Character.

The contents of the course in economic geography should be based on above objectives. The successful teacher of commercial geography is one who has, in addition to teaching skill, a wide range of knowledge of subject matter. The history of the teaching of the subject reveals much uncertainty as to objectives, and, therfore, of uncertainty in the content. The teacher should make a judicious selection of the objectives of the course, stressing those which meet the peculiar need of the school, of the community, and of the state.

The correlative value of this subject of geography is considerable. It is advisable that this correlation be under the control of the heads of departments, to prevent needless

repetition between the subjects.

Before considering special methods, it was deemed advisable to give a brief review of the outstanding educational and psychological principles of learning and teaching. The major laws of learning were included. In these principles we restressed the fact that learning is the result of simplified practice at the best rate consistent with the best quality. The laws of learning we found to be the laws of Readiness, Exercise, Effect, Multiple Response, Mind Set, Partial Activity, Analogy and Associative Shifting. In accertaining the usefulness of the provisions for meeting individual differences it would be well to compare them with the laws of learning to discover their effectiveness.

The great influx of high school pupils into the school system has brought its problems of heterogeneity of abilities, interests, aims, effort, and a number of other problems. Educators have seen these difficulties and are endeavoring to meet the changing conditions by a wide variety of provisions. These include the Winnetka Technique, and the Unit Plan; the Dalton Plan and the Contract Plan; the Laboratory Plan, the Project Plan, the Problem Plan, and a number of other provisions, many of which are administrative, and only indrectly affect geography.

The Unit Plan is a learning unit which is a comprehensive aspect of a subject, art, conduct, etc., the learning of which results in an adaptation in personality. It recog-

nizes individual differences in pupils; insists that attitudes and skills are the main outcomes of teaching; that mastery of the unit should be attained, and this by means of the Mastery Formula and the Teaching Cycle. It declares that units are not to be arbitrarily divided and that subjects can be classified into certain types. While it is to be conceded that the Unit Plan has several advantages such as closer contact with the individual pupil, it is my opinion that its disadvantages far outweigh its advantages. The testing program is rather objectionable for several reasons. It is extremely doubtful if all the desirable objectives can be accomplished. The answer to this will be that it would be possible to include in the course only the minimum essentials. This would result in lowering the standards of achievement. There is also less actual teaching and preparation for teaching, in this method. The advantages of the Unit Plan can be incorporated into the Recitation Plan.

The Contract Plan is an evaluation of varying quantities of work to be done within a specified time. Its chief characteristics are: Recognition of individual differences; a definite task or series of tasks to be performed within a certain period of time; the use of guide sheets; and the grading to be based on satisfactory completion of a minimum result, with higher grades to be given for completing additional assignments. The advantages and disadvantages of the

Contract Plan are similar to those of the Unit Plan. Under this plan, however, the difficulty is too few examinations rather than too many. There is a minimum of actual teaching in this method, as in the previously mentioned method.

In regard to the Laboratory Plan, the Problem Plan, the Project Plan, and the Topic Plan,it might be said that these procedures may be applied for single assignments to good advantage. I don't believe that they would be desirable methods for permanent procedures. They do not admit of the effective teaching that is possible under the Recitation Plan. As for the Dalton and Winnetka Plans, they are too impractical for serious consideration without considerable alteration.

The Recitation Plan is based upon the idea of class recitations of matter previously learned. The Characteristics of this plan are: It recognizes no individual differences; knowledge, attitudes and skills are the main outcomes; the subject matter is divided into arbitrary units for lesson assignment purposes; the use of a lesson plan: various effective kinds of lesson presentations: a program of tests and measurements; the use of passing grades. (This method calls for more teacher preparation and actual instruction than do the other methods.) While this plan has disadvantages,

many of these can be traced to teacher deficiencies rather than to shortcomings in the method itself. I am not critical of the so-called newer methods, because they are new, but, rather because I don't believe that they will eliminate our problems; but rather will complicate them. Raising the standards for admission into the profession would eliminate many of its abuses.

Devices or aids in teaching can be utilized to advantage in this subject of commercial geography. Some of these are pictures of one kind or another, maps, projectors, exhibits, and specimens. They aid in securing and holding the pupils' attention.

An outline of the year's work and several approaches are selected. The teacher should strive to make the approach interesting in order to catch and retain the pupils' interest.

Several units to be considered in commercial geography are selected as types for applications of the various teaching methods previously mentioned. For some, the Unit Plan is quite apropos. Other methods have been used to advantage.

Observation or field trips also have a place in the teaching of this subject. It gives the pupil some knowledge about local industrial, or commercial plants. It has many advantages, but also several disadvantages. To secure the utmost worth from the trip it should be well prepared in

advance.

In testing and measuring, many notable advances have been made in recent years. The faults of previous systems of marking have been published to a considerable extent and remedies suggested. Intelligence tests have assumed great significance, whether wisely or not. There are various other kinds of tests such as: achievement tests which include objective, standard, essay type tests; prognostic tests, and many branches of these depending on the function or purpose of the test.

Conclusion and Recommendations. These conclusions and recommendations are based on the author's personal experiences, reference readings, and conversations with teachers of the subject. Local factors may alter these conclusions, or recommendations.

The author recommends the economic geography be placed in the tenth year; that the course be taught for five recitations a week; that it be given for two semesters, one semester of which is to be devoted to a study of the United States, and the second semester be devoted to the rest of the world. If fewer classes are held, it will be necessary to eliminate some worthy objectives.

The author also recommends that the teacher of commercial geography be selected from among those who are specifically trained for this work. Otherwise this selection should be

limited to the commercial department, or to the economic department, or to the social science department.

Economic geography is a social science subject. As such it offers a fertile field for the inculcation of social and personal ideals of conduct. Teachers are asked to stress these traits. I recommend it highly. Yet are we teachers fully prepared to inculcate these ideals? I don't think so. I also recommend that teacher training courses pay more attention to this deficiency by giving courses in character training to prospective teachers.

The Unit Assignment plans, as they are at present constituted are not a satisfactory answer to our teaching needs. Where they are adopted they have usually been altered considerably. I recommend that many teachers try the methods. From these experiments, subjected to the scrutiny of educational and statistical measurements and interpretations, many desirable procedures may be evolved. These can be subjected to comparisons with the results of the Recitation plan, which, in turn, can be subjected to the same tests. This would make an excellent problem for a thesis.

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APPENDIX

SUMMARIZED EXTRACTS FROM THE NEW YORK STATE SYLLABUS*

I. The Western Region
  A. The Coast section, except the southern part
    1) Topography, 2) climate, 3) soil and 4) industries
  B. The Southwestern region
    1) Topography, 2) climate, 3) soil, 4) industries
  C. The plateau section
    1) Topography, 2) climate, 3) soil, 4) industries
  D. The Rocky mountain section
    1) Topography, 2) climate, 3) soil, 4) industries
  Special Topics
    1) Irrigation, 2) Preservation of Fruit, (3) Sugar beet raising, 4) Mining of copper, gold and silver, 5) Forests, 6) Petroleum, 7) Effect of Panama Canal.

II. The north central region

  A. Topography
  B. Climate
  C. Soil
  D. Industries
    1) Corn growing, 2) Wheat growing, 3) sugar beet raising, 4) Flax raising, 5) Salt production,
    6) Stook raising, 7) Mining of iron and copper,
    8) Manufacturing, 9) Railroading.
  Special Topics
    1) Mining, 2) Steel manufacture, 3) Wheat growing, harvesting ,etc. 4) Corn and corn products,
    5) Beef and cattle products, 6) Swine and pork products, 7) Sheep and wool, 8) Value of the Great Lakes.

III. The Southern region

  A. Topography
  B. Climate
  C. Soil
  D. Industries
    1) Fishing and clamming, 2) Cotton growing,
    3) Lumber products, 4) Fertilizer preparation,
    5) Rice growing 6) Cane sugar production,
    7) Tobacco raising and curing, 8) Petroleum and oil refining, 9) Iron and Steel manufacture,
    10) Rice production

Special Topics
    1) Cotton growing, picking, etc. 2) By-products of the cotton plant, 3) Work of the Federal Government in aiding cotton farmers, 4) Beet versus cane sugar production, 5) Rice culture, 6) Extermination of the southern mosquito, 7) The United States Reclamation Service. 8) Prevention of Mississippi floods, 10) Tobacco growing, curing, etc. 11) Diversified farming in the South.

IV. The north Atlantic region

A. Topography
B. Climate
C. Soil
D. Industries
    1) Small farm agriculture, 2) Dairying and dairy products, 3) Fishing, 4) Lumbering, 5) Coal mining, 6) Iron mining, smelting, and steel making, 7) Printing trades, 8) Pottery and earthenware, 9) Textiles, 10) Miscellaneous manufactures, 11) Railroads, 12) Canals

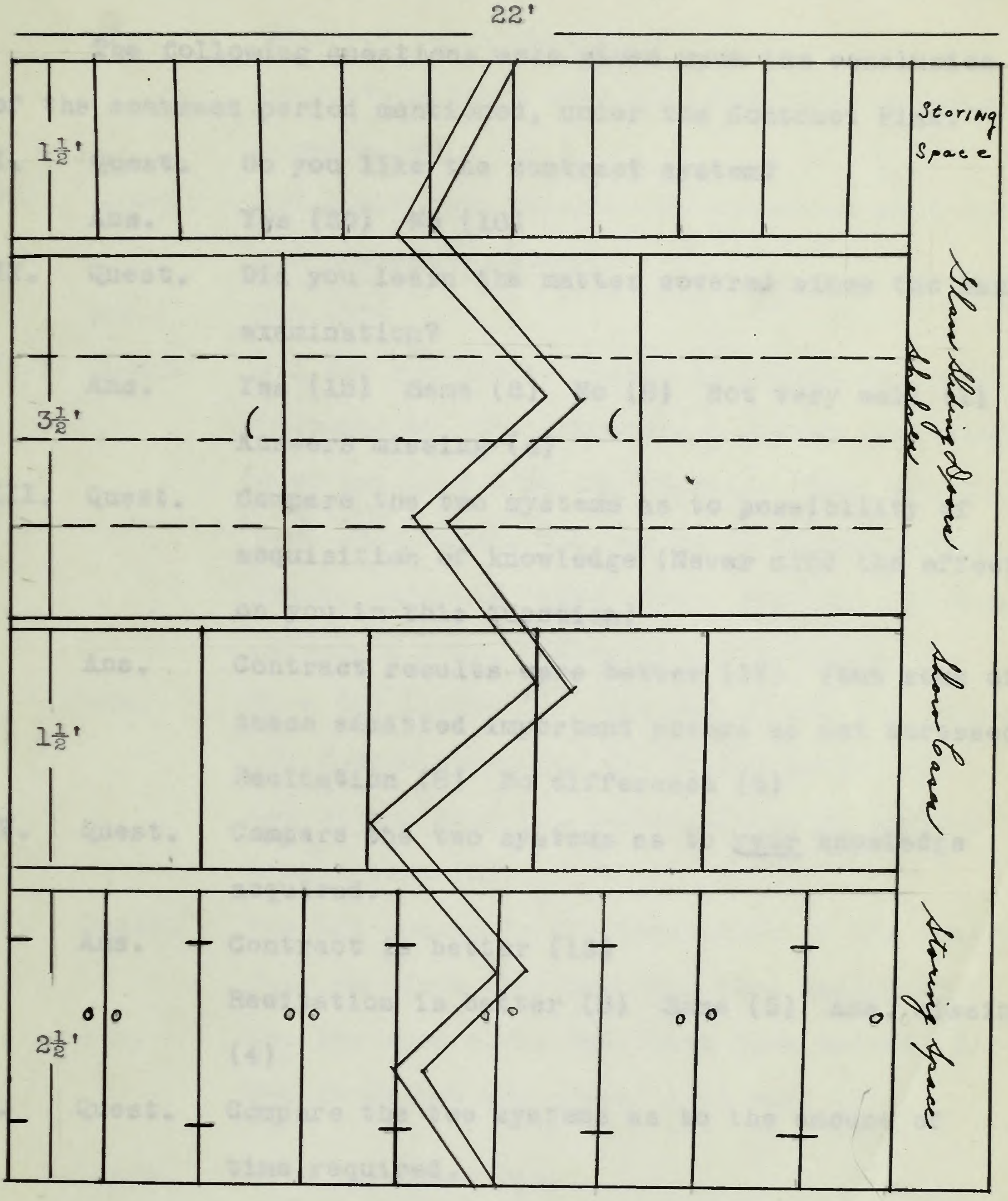
Special Topics
    1) Production of paper, 2) Milk, butter, and cheese, 3) Modern coal mining, 4) Distribution of coal, 5) Manufacture and use of coke, 6) Steel manufacture, 7) Great systems of railroads of the East, 8) Reasons for concentration of industries, 9) The Fall line, 10) Development of hydroelectric power, 11) The increasing use of the motor truck.

V. New York State

A. Position
B. Size
C. Topography -- high lands, lowlands
D. Drainage
E. Climate
F. Soil
G. Industries,
    1) Clay, 2) Stone, 3) Cement, 4) Gypsum, 5) Natural gas, 6) Iron, 7) Salt

Special Topics
    1) New York City, (its location, and needs) 2) The apple and peach region, Collars and shirts, 3) gloves and mittens, 4) Typewriters, 5) Wood pulp, 6) Knit goods, 7) Sea Food, 8) Milk supply, 9) Comparison of methods of transportation, 10) Clothing industry, 11) Photographic supplies, 12) Poultry products

A SUGGESTED SIDE WALL



Appendix

CONTRACT PLAN DATA

The following questions were given upon the conclusion of the contract period mentioned, under the Contract Plan.

I. Quest. Do you like the contract system?
Ans. Yes (20) No (10)

II. Quest. Did you learn the matter covered since the last examination?
Ans. Yes (15) Same (2) No (8) Not very well (1)
Answers missing (4)

III. Quest. Compare the two systems as to possibility of acquisition of knowledge (Never mind the effect on you in this question)
Ans. Contract results were better (17) (but some of these admitted important points as not stressed
Recitation (8) No difference (5)

IV. Quest. Compare the two systems as to your knowledge acquired.
Ans. Contract is better (13)
Recitation is better (8) Same (5) Ans. missing (4)

V. Quest. Compare the two systems as to the amount of time required.
Ans. Contract takes more (12)
Recitation takes more (8) Same (4) Answers missing (6)

VI. Quest. Compare amount of your time spent in the two systems.

Ans. Contract takes more (13)

Recitation takes more (7) Same (5) Answers missing (5)

VII. Quest. Are there more chances for dishonest work under the contract system?

Ans. Yes (28)

VIII. Quest. Did you personally engage in dishonest work? (Because of this question, I stated that names need not be put on the papers). This included: (not reading all the matter in supplementary texts, skipping pages, etc., copying, allowing others to copy, examination dishonesty.)

Ans. None (9) Plenty (4) Did not do all the reading (2) Copied sometimes (5) Copied little (9)

Let others copy (4) Copied in one or another examination (3).

IX. Quest. Was the teacher's administration of the contract fair and just (was too much work assigned).?

Ans. No, too much work, but class time helped (5).

Nes 18 Medium (2) except last week (2)
" 1st " (2)

X. Quest. Were the tests fair?

Ans. No (0) Yest (26) Have more supplementary reading quest (3) Examination quest too easy (1)

XI.	Quest.	Do you prefer to have the recitation method with its class explanations, definite assignment and recitations?
	Ans.	No (17) Yes (10) No difference (2) Missing (1)

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THESIS

O'Connell

Present Day Methods of teaching economic geography

DATE	ISSUED TO

3/14
5/8/26
May 7
11.30
2:20
July 30

BOSTON UNIVERSITY
1 1719 02556 3331